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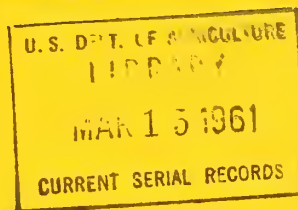
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MARKETING SERVICE PROGRAMS

CONDUCTED BY
STATE DEPARTMENTS OF AGRICULTURE
UNDER THE
AGRICULTURAL MARKETING ACT OF 1946

IN COOPERATION WITH

U. S. DEPARTMENT OF AGRICULTURE
OCTOBER 1, 1958-SEPTEMBER 30, 1959



U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
WASHINGTON, D. C.

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July 1960

MARKETING SERVICE PROGRAMS

conducted by
STATE DEPARTMENTS OF AGRICULTURE
under the Agricultural Marketing Act of 1946

In cooperation with U.S. Department of Agriculture
(October 1, 1958-September 30, 1959)

INTRODUCTION

Marketing service programs conducted by State departments of agriculture under the matching-fund authority of the Agricultural Marketing Act of 1946 were started in 1947 with 21 States participating. In 1958-59, these programs were carried on in 41 States and Puerto Rico. All of the programs are described in this comprehensive report. The States are:

Alabama	Maine	Ohio
Alaska	Maryland	Oklahoma
Arkansas	Massachusetts	Oregon
California	Michigan	Pennsylvania
Colorado	Minnesota	South Carolina
Florida	Mississippi	South Dakota
Georgia	Missouri	Tennessee
Hawaii	Montana	Texas
Illinois	Nebraska	Vermont
Indiana	New Jersey	Virginia
Iowa	New Mexico	Washington
Kansas	New York	West Virginia
Kentucky	North Carolina	Wisconsin
Louisiana	North Dakota	

These programs are designed to help marketing agencies at the various levels of distribution adopt new techniques and methods for performing marketing operations discovered or developed through research under the act, show these marketing agencies and producers how to improve or maintain the quality of products during marketing, provide producers and marketing agencies with new, more timely and complete marketing facts and information, and expand markets for farm products.

The Liaison Office, Matching Fund Program, Agricultural Marketing Service, provides guidance and assistance to the States in conducting these programs. That office assisted in planning and conducting the annual National Marketing Service Workshop, held at Springfield, Ill., November 18-20, 1958. The 190 representatives from 37 States, Canada, and the U.S. Department of Agriculture,

attending this workshop considered the problem of adjusting marketing service programs to changing conditions and how State departments of agriculture could improve the effectiveness of their programs having this objective.

General guidance to the matching fund program is provided by the Advisory Committee on Cooperative Work under the Agricultural Marketing Act with State Departments of Agriculture. Members of that committee are: L. Y. Ballentine, North Carolina, chairman; George H. Chick, Maine; Spencer Duncan, New York; Roy Freeland, Kansas; and Stillman J. Stanard, Illinois.

To improve the operation of their programs and prevent duplication of effort, the State departments of agriculture maintain close cooperation with industry and trade groups, State extension services and agricultural experiment stations, vocational educational agencies, and the U.S. Department of Agriculture.

These programs are conducted under cooperative agreements between the State department of agriculture, or similar agency responsible for marketing service work, and the U.S. Department of Agriculture. Individual projects are initiated by the States and approved by the Agricultural Marketing Service. Allotments were made to the States to conduct 123 projects during the period covered by this report. These projects were divided among the following four major fields of work authorized under the act:

1. Maintaining product quality

State departments of agriculture give firsthand assistance to producers and marketing agencies in determining the causes of quality losses and in taking corrective actions. Such work often involves detailed plant and retail store surveys to spot the places and operations where bruising, contamination, and other causes of quality losses are occurring, followed up by consultations with plant or store management concerning the problems found and providing firsthand assistance in adopting recommended corrective measures. Demonstrations of official grades and standards and the advantages of improved containers in retaining quality are given producers and marketing agencies in furtherance of the quality maintenance work.

2. Expanding market outlets

Work in this field is directed at increasing consumption of products in chronic oversupply as well as finding outlets for local seasonal surpluses. In helping to accomplish the latter objective, the States provide more timely and reliable production and marketing information and develop an improved communication system with potential buyers. Programs conducted to cope with longer-term surplus problems are of necessity more complicated and varied. Frequently, basic changes in grading, packaging, processing, and distribution methods are necessary to achieve increased consumption on a sustained basis.

3. Reducing costs through improving efficiency of marketing facilities and operations

Under the projects in this field, State departments of agriculture help producers and marketing agencies design new or remodeled facilities, select

equipment, plan layouts and adopt work methods which speed output, reduce labor requirements per unit, and reduce costs. Assistance also is provided in determining the most effective locations and efficient sizes of new facilities such as livestock auctions, poultry processing plants, grain elevators, milk plants, fruit and vegetable assembly markets, and food distribution centers.

4. Providing new basic data and market information

a. Developing information and basic data useful in planning marketing programs. New information and basic data on both a State and local area basis, relating to trends in production, changes in consumer demand, the competitive situation in markets, storage holdings, and rate of disappearance, are collected, analyzed, and disseminated by Federal-State statisticians in the various States. These data are of value to producers and marketing agencies in planning programs. Information to provide a more dependable basis for crop estimates and projection of production trends is obtained through censuses of tree numbers and objective samplings of crops at various stages of growth.

b. Improving market news. With the trend toward decentralized packing and processing, the bypassing of terminal markets, and direct selling at country points, the need has increased for market news information at the local market level. To meet this growing need, experimental market news coverage is being provided for local markets not heretofore reported. If successful, the States may incorporate these programs as a part of their regular market news service and support them entirely with State funds. If not, they are discontinued.

This progress report, prepared from material submitted by the States, presents (1) the types of marketing service programs by major commodities, and States, (2) summaries of work by States and projects, and (3) a list of recent publications issued in connection with the projects.

TYPES OF MARKETING SERVICE WORK, BY MAJOR COMMODITIES, AND STATES

Fruits and Vegetables

Improving quality.--Alaska, California, Colorado, Georgia, Hawaii, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Mississippi, Missouri, New Jersey, New Mexico, New York, North Carolina, Oklahoma, Texas, Virginia, Washington, West Virginia, and Wisconsin.

Expanding outlets.--Alaska, California, Colorado, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Minnesota, Mississippi, Missouri, New Jersey, New Mexico, New York, North Carolina, Oklahoma, Pennsylvania, Texas, Virginia, Washington, West Virginia, and Wisconsin.

Improving marketing efficiency.--Alaska, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, New Jersey, New York, North Carolina, Pennsylvania, Virginia, Washington, West Virginia, and Wisconsin.

Providing basic data and marketing information.--Alaska, California, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Massachusetts, Michigan, Mississippi, Missouri, New Jersey, New Mexico, New York, North Carolina, Oregon, Pennsylvania, South Carolina, Texas, Virginia, Washington, West Virginia, and Wisconsin.

Dairy Products

Improving quality.--Indiana, Kansas, Kentucky, Louisiana, Massachusetts, Minnesota, Mississippi, Montana, North Dakota, Oklahoma, Vermont, and Wisconsin.

Expanding outlets.--Alaska, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Missouri, Montana, New York, and North Carolina.

Improving marketing efficiency.--Indiana, Louisiana, Mississippi, and Wisconsin.

Providing basic data and marketing information.--Alaska, Louisiana, Minnesota, Mississippi, New Jersey, New York, Pennsylvania, South Carolina, South Dakota, Virginia, West Virginia, Washington, and Wisconsin.

Poultry and Eggs

Improving quality.--Alaska, Alabama, Arkansas, Florida, Georgia, Illinois, Kansas, Kentucky, Louisiana, Maine, Minnesota, Mississippi, Montana, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, Tennessee, Texas, Virginia, and West Virginia.

Expanding outlets.--Alaska, Alabama, Arkansas, Florida, Georgia, Illinois, Kansas, Kentucky, Louisiana, Maine, Minnesota, Mississippi, Montana, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, Tennessee, Texas, Virginia, Washington, and West Virginia.

Improving marketing efficiency.--Arkansas, Florida, Kansas, Louisiana, Minnesota, Mississippi, North Carolina, Tennessee, and Virginia.

Providing basic data and marketing information.--Alaska, Colorado, Florida, Georgia, Illinois, Indiana, Kansas, Maryland, Michigan, Minnesota, Mississippi, New Jersey, Virginia, Washington, West Virginia, and Wisconsin.

Livestock

Improving quality.--Alaska, Georgia, Indiana, Kansas, Kentucky, Maine, Maryland, North Carolina, Tennessee, Virginia, West Virginia, and Wisconsin.

Expanding outlets.--Alaska, Georgia, Indiana, Kansas, Kentucky, Maine, Maryland, North Carolina, Tennessee, Virginia, West Virginia, and Wisconsin.

Improving marketing efficiency.--Georgia, Indiana, Kentucky, North Carolina, Virginia, and Wisconsin.

Providing basic data and marketing information.--Kansas, Illinois, Indiana, Iowa, Kentucky, Minnesota, New Jersey, Missouri, Nebraska, Ohio, Oklahoma,

South Carolina, South Dakota, Virginia, Washington, West Virginia, and Wisconsin.

Grain, Seed, and Hay

Improving quality.--Alabama, Georgia, Indiana, Maryland, North Carolina, North Dakota, Oregon, and Virginia.

Expanding outlets.--Colorado, Georgia, Kansas, Louisiana, and Oklahoma.

Improving marketing efficiency.--Georgia, Indiana, Maryland, North Carolina, and Virginia.

Providing basic data and marketing information.--Illinois, Indiana, Kansas, Kentucky, Louisiana, Minnesota, Mississippi, Montana, Ohio, Oregon, South Carolina, South Dakota, Texas, Virginia, Washington, and Wisconsin.

Other Commodities

State departments of agriculture also helped producers and marketing agencies in improving the marketing of several other commodities, such as cotton, tobacco, honey, maple syrup, and nursery and forest products.

The following summary describes, in greater detail and project by project, the activities and accomplishments of each of the States in the program during the reporting year.

SUMMARIES OF MARKETING SERVICE WORK BY STATES AND

BY PROJECTS

ALABAMA

Improving and maintaining quality (seed) (ALA-A-1)

Activities under this project are designed to assist seed processors in improving seed storage practices and processing methods so as to enable them to market seed of high purity and germination. Seed marketing specialists promoted better processing by presenting displays and exhibits of improved methods and machinery at fairs, by training farmers and processors in weed identification, by working with individual processors to correct faulty operations, and by helping manufacturers of seed cleaning machinery develop more efficient machinery.

Last year the Alabama department sponsored a regional meeting of peanut seed processors from 8 States for the purpose of acquainting them with the latest peanut processing equipment, to discuss State and Federal regulations pertaining to the sale of seed peanuts, and to demonstrate quality tests made on peanuts processed in their plants. This meeting is credited with having encouraged processors to improve and identify the quality of seed peanuts offered to farmers.

A number of outstanding improvements have been made in the processing of seed in Alabama since the program was started in 1950. In that year only about 10 percent of the plants in the State had seed treating facilities and seed cleaning machinery. At the present time all plants in the State are so equipped. Moreover, in 1950 more than 20 percent of the seed samples tested by the department's laboratory exceeded the tolerances permitted under the Alabama seed law for weed and noxious weed seed; today only 2 percent of the samples fail to meet these requirements.

Improving quality and expanding outlets (poultry and eggs) (ALA-A-2)

Under this project marketing specialists of the Alabama department assisted more than 700 producers, packers, wholesalers and retailers of eggs in adopting proper methods of handling and caring for eggs so as to preserve quality. By following the methods and procedures recommended and demonstrated by these specialists, the Alabama egg industry was able to supply nearly all of the State's egg requirements in 1959, compared with less than 70 percent when the project started, and to compete successfully in out-of-State markets in moving surpluses that developed. This work also helped to stimulate a further increase in the percentage of eggs being displayed under refrigeration in Alabama retail grocery stores.

ALASKA

Improving quality, securing the adoption of better marketing methods and expanding outlets (ALAS-A-1)

Potatoes.--The quarterly stocks reports issued by the Alaska Department of Agriculture helped stabilize marketing of the 1958 potato crop following a period of disorganized selling early in the marketing season which depressed prices to a record low. Assistance was given in the design and construction of two potato storages in the Palmer area utilizing forklift handling of one-ton pallets. These mechanically refrigerated structures will permit year-round marketing of the crop. The use of pallet boxes for handling and storage is expected to reduce bruising and improve the appearance of potatoes as compared with conventional handling and storage methods.

Vegetables.--Surveys of planted acreages and production were made to inform growers and handlers of probable quantities of marketable produce. Demonstrations of proper handling and grading were given growers in two areas of the State. Information regarding present and prospective vegetable supplies, varieties, and so forth, was given two firms interested in vegetable processing.

Livestock and meat.--Assistance was provided a hog packing concern in developing proper meat slaughtering and handling facilities and in improving the quality of pork carcasses. The Alaskan department cooperated with the Agricultural Experiment Station and the Extension Service in developing methods for improving reindeer carcass and hide quality. The work was continued on Nunivak Island to improve the preparation of reindeer meat for market and in promoting increased consumption of this product.

Milk.--By providing pertinent supply and price information, the department assisted milk producers in their efforts to obtain military markets for fresh milk. An announcement has been made that military purchases of local Grade A

milk will begin June 1960. It is estimated that this market will amount to three quarters of a million dollars annually.

Feed Grains.--The demand for locally manufactured feed continues to increase and with this trend have come more requests for assistance in improving quality of both grains and finished feed.

ARKANSAS

Improving egg quality (ARK-A-1)

Passage of "The Arkansas Egg Marketing Act of 1959" by the 1959 General Assembly and related marketing service work to be conducted by the Arkansas Livestock Sanitary Board is expected to accelerate the adoption of better egg marketing practices by producers, packers, wholesalers, and retailers. The Board provided guidance to the egg industry and legislators in developing this legislation and embarked on an intensified service program to acquaint producers and marketing agencies with the requirements of the Act and to assist them in overcoming quality problems. Specialists assisted in creating a marketing agency with adequate volume of high quality eggs to supply out-of-State outlets. They also participated in surveys and discussions to appraise the adequacy of existing market news services for eggs. Past work under this project to improve egg quality has produced beneficial results. One bit of supporting evidence is the fact that in August of 1958 slightly over 95 percent of the eggs certified by the Federal-State Inspection Service in Arkansas were U.S. Grade A or better; in August of 1957 the percentage was 88 percent.

CALIFORNIA

Improving quality and packaging (CALIF-A-1)

Work under this project is conducted by the Bureau of Fruit and Vegetable Standardization of the California Department of Agriculture. Many problems arise in developing and applying quality standards to fruits and vegetables produced in the diverse growing areas of California. Likewise, numerous problems occur in the standardization of packages and in other aspects of product specification from new developments in marketing.

The results of earlier work on grape maturity and the application of the pressure test to Freestone peaches were analyzed and reported during the year. Surveys were conducted in 1957 and 1958 to determine the effects of periods of high temperature and humidity on the maturity of Thompson Seedless grapes produced in the Coachella Valley. The findings in these two years indicate that soluble solids increase steadily throughout the growing and harvesting season and do not decrease because of high humidity and temperature as some growers contend. From this information, it appears that no reduction in the present minimum maturity requirements for these grapes is warranted.

Surveys were conducted in 1958 to obtain pressure test readings on Freestone peaches at the time of shipment from various areas. This information was analyzed

during the current year and the results furnished the California Fresh Peach Advisory Board which had requested guidance from the California department in considering the need for a maturity regulation utilizing the pressure test technique.

Work initiated in 1957 to evaluate apple maturity requirements was continued. Observations made in 1957 and 1958 demonstrate that the existing maturity standards can be applied on a statewide basis. Data obtained during the current season have not been analyzed.

At the request of the peach and nectarine marketing advisory boards, the Bureau started gathering data on count packs and minimum size measurements for these fruits to help the industry in achieving greater standardization of these packs. These data have not been analyzed.

Field investigations of soluble solids/acid ratios in several varieties of grapes were conducted by the Bureau during the year as a phase of a palatability study requested by the California Grape and Tree Fruit League and carried on by the College of Agriculture at the University of California. The information obtained on the soluble solids/acid ratio is to be correlated with the palatability ratings of the taste panels conducted by the College of Agriculture.

Developing methods of certifying nursery stock (CALIF-A-2)

The objective of this work is to develop methods of certifying to buyers that nursery stocks are free of serious virus diseases, thereby improving consumer acceptance and marketability of these stocks. Virus diseases cause serious damage and losses in fruit, tree nut, and vine nursery stocks and plantings, and are readily perpetuated in nursery stocks if virus-infected propagating source materials are used. Of the approximately 70 known virus diseases affecting these stocks at least 43 are believed to occur in California. California nurserymen supply a major part of the nursery stock needs of fruit, tree nut, grape and berry producers in California.

During the past year emphasis was placed on the following activities:

1. Making visual inspections of stone fruit, pome fruit, and grapevine propagating sources submitted by 52 propagators located in 27 counties.
2. Making index of transmission tests in field plots, particularly those concerned with testing of stone fruit trees on Shiro-fugen flowering cherry but also including tests on other commodities where virus diseases are concerned.
3. Correlating results of inspections and tests of propagating source plants with visual inspections of the progeny nursery stock.
4. Investigating nursery practices and devising new methods, where necessary, to maintain identity of stock and to avoid the introduction and perpetuation of virus diseases.
5. Starting, on two trees of each of eight hosts, the initial indexing of 35 peach and nectarine trees, preparatory to initiating a peach and nectarine registration and certification program.

6. Refining procedures for the development and continuance of registration and certification programs.

7. Continuing the development of an isolated plot used as a repository for clean stock.

In conducting these activities the California department cooperated with the University of California Agricultural Experiment Station, Agricultural Extension Service, county agricultural commissioners, nurserymen and growers. New information gleaned from the year's work was incorporated in three published articles, the titles of which are included in the list of publications at the end of this report.

The work with cherries has progressed to the point that "Certified" nursery stock will be available to commercial cherry orchardists for the first time during the 1959-60 planting season. Information concerning the design of labels and seals to identify certified nursery stock and propagating material from registered trees can be secured from the California Department of Agriculture at Sacramento. The status of the cherry trees presently entered in the California program is summarized below:

Table 1.--Status of registration and certification program for cherry trees, California, 1958-59

Type of planting	:	Plantings	:	Participants	:	Trees	:	Varieties
	:		:		:		:	
	:	<u>Number</u>	:	<u>Number</u>	:	<u>Number</u>	:	<u>Number</u>
Foundation blocks....:	:	1	:	1	:	48	:	7
Mother blocks	:	2	:	12	:	97	:	7
Increase blocks	:	10	:	10	:	5,000	:	7
Nursery rows.....:	:	3	:	3	:	30,000	:	7
Seed trees.....:	:	1	:	1	:	13	:	2
	:		:		:		:	

Since virus-free sources of certain cherry varieties have not been found for entry into the program, and since the present supply of "Approved Propagating Stock" is inadequate to meet the demands of nurserymen, propagating sources not eligible for the program were inspected. Of the 1,969 trees inspected 121 were found unfit for propagating use. Diseases encountered were ring spot, necrotic rusty mottle, sour cherry yellows, crinkle leaf, white crinkle, and deep suture.

As a result of work under this project, California vineyardists also will be offered "Certified" grapevines during the 1959-60 planting season. Statistics relating to the present status of the registration and certification program for grapevines are as follows:

Table 2.--Status of registration and certification program for grapevines,
California, 1958-59

Type of planting	Plantings	Participants	Trees	Varieties
	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>
Foundation blocks ..	5	2	1,650	50
Mother blocks	13	12	13,908	25
Increase blocks	10	9	28,600	11
Nursery rows	5	5	186,000	15

The foundation blocks are maintained by the Foundation Plant Materials Service of the University of California at Davis and the California Department of Agriculture at Sacramento. These include 25 clonal varieties representing undistributed foreign importations introduced through the U.S. Department of Agriculture. The 186,000 rooted vines in nursery row plantings constitute the "Certified" stock which will be offered vineyardists in 1959-60. Inspections were made of all the grapevine stocks described above and also some variety sources not now entered in the program. Of the additional 14,684 vines inspected, 4,341 were found to be unfit for propagating use. Diseases encountered were fanleaf, leaf roll, yellow mosaic, yellow vein, Pierce's disease, and asteroid mosaic.

Some progress was made toward eventual registration and certification programs on almonds, peaches, nectarines, plums, prunes, apricots, pears, apples, and quinces. Details regarding specific activities, problems encountered, and new discoveries and techniques are too extensive for inclusion in this report.

Improving distribution of farm products (CALIF-B-1)

The department gave assistance during the year to several commodity groups operating self-help marketing programs under the authority of California marketing statutes. This assistance included the analyzing of marketing problems, the collecting of information bearing on them, and the developing of recommendations for bringing about a solution of them. Several reports were prepared and issued during the year based on earlier market surveys and analyses. Additional market surveys were made this year to provide information needed by some commodity groups in initiating promotional efforts and by others in modernizing their programs to keep abreast of changing marketing conditions. Contacts over the years with the various commodity advisory boards in charge of product promotion demonstrated that many of the members needed training in promotion fundamentals. In response to this the California department undertook the preparation of a manual on this subject. This manual is expected to be ready for distribution early next year and probably will bear the title "Guide Lines for Directing Agricultural Product Promotions." More specific information regarding work on individual commodities follows:

Strawberries.--A marketing study for the California strawberry industry, in progress at the end of last year, was completed and a report published.

This report, which was distributed to all strawberry growers, shippers, and packers at industry expense, provided the industry with a better understanding of its problems and several of the recommendations made have been adopted. For example, the report brought out that disproportionate emphasis was being given to fresh strawberries in the overall promotional program. The industry is carrying out the recommendation based on this finding that greater stress be given to frozen strawberries and strawberry products.

Fresh peaches.--The report "Increasing the Sale of Fresh Peaches in California," prepared by the California department on the basis of market surveys made last year was used by the Fresh Peach Marketing Order Advisory Board in strengthening its 1959 promotional program. One recommendation made in the report was that the Board exercise greater control over program operations. The Board adopted this recommendation with beneficial results.

This report received industrywide attention and was quoted in nationally distributed industry and trade publications. The material was also presented at the annual convention of the National Peach Council and at meetings of several State horticultural societies.

Canning Bartlett pears.--Members of the Marketing Order Program Committee for this commodity were given training in the basic fundamentals of product promotion, and in developing a plan for reorganizing the California, Oregon, and Washington promotional program. Under this proposed plan the California industry would assume greater responsibility in this joint industry effort.

Turkeys.--At the request of the California turkey industry, represented by the Turkey Promotion Advisory Board, a study was undertaken of methods for improving the California market. This study is a follow-up to an earlier one made in 1951. A report on this work is in process of preparation.

Providing new basic information (tree fruits, nuts, bush berries, and grapes)
(CALIF-D-1)

Fruit and nut acreage surveys.--During the last year, 24,000 California fruit and nut farms were enumerated to bring their acreage inventory records up to date. Partially complete information concerning plantings and removals was used to adjust acreage on the remainder of the approximately 100,000 fruit farms in the State. The results of work on acreage of tree fruits, grapes, and nuts were summarized in an annual report published in June 1959. Detailed acreage information by types, varieties, ages, and counties was presented in a bulletin entitled "Acreage Estimates, California Fruit and Nut Crops, as of 1958." Detailed data concerning bush berry acreage also were published. This work provides basic statistical records on 1.4 million acres of these crops which have returned growers an annual average of about 550 million dollars the last four years. These statistics are valuable to California interests, but their value extends to the national level since California supplies 45 percent of the United States' fruit production.

Development of objective methods of estimating production

Grapes (CALIF-D-4).--This work continued for the third successive year. The basic sample design was not changed during the past year, but experience

gained in earlier work disclosed the need for additional counts and measurements of fruits. The following were added this year: berry counts on immature bunches in the first survey; midseason bunch counts and measurements, and berry counts to establish growth rates, the disappearance of bunches, and the development of second growth bunches; preharvest bunch and berry counts to determine the extent of change from earlier counts; testing of mature grapes for sugar content; and the determination of average weight of fresh raisin-type grapes per tray needed to accurately determine the ratio between the fresh and dry weight of dried raisin grapes.

Walnuts (CALIF-D-5).---Work on this project was begun in 1958. The program to date has consisted of developing sampling and survey procedures and the collection of basic data which ultimately will be used to develop mathematical formulas for forecasting the production of walnuts in California. In addition to collecting the basic statistics that will be needed for forecasting work, the project has provided an opportunity to perfect operational techniques. Briefly, the walnut project involves the making of nut counts and physical measurements on nuts in parts of selected trees in 500 sample orchards in the States which were selected at random with known probabilities. No forecasts have been attempted using these data since this is only the second year in which these surveys have been made. Reports summarizing percentage distributions of grades of walnuts selected in the sampling process and distributions by size have been made available to the Walnut Advisory Board following both the 1958 and 1959 surveys. In 1959, comparative size and weight data for nuts for both the 1958 and 1959 seasons were presented to the Board for their information but no interpretations of these data were offered.

Lemons (CALIF-D-6).---This is a new project on which field work was inaugurated in January 1959, following a study in which sample size and distribution and survey methods were determined. Experience gained in the initial stages of this work has provided an opportunity to perfect operational techniques. Briefly, the project involves fruit counts and measurements in selected trees in 500 lemon groves. Data collected on these trees in a series of surveys made in advance of and during the harvest season are expected to be used to forecast lemon production and to predict the approximate volume of fruit to be picked monthly. Plans for the 1959-60 lemon season include two surveys involving all 500 sample groves--one in October and a second in February--to establish fruit population. Experience during the first year's operations proved that random sampling of tree parts would be possible, and this more acceptable statistical technique will be employed in the 1959-60 season.

COLORADO

Improving marketing practices (COLO-A-1)

Wheat.---Specialists of the Colorado department assisted wheat producers in three additional counties--Rio Blanco, Moffat, and Routt--in being included under the Colorado Wheat Marketing Order. This program became effective in September 1958, and is administered by the Colorado Wheat Administrative Committee, composed of wheat growers from the various wheat producing counties. The Committee

was assisted in developing cooperative arrangements with similar wheat organizations in Kansas and Nebraska to form the Great Plains Wheat Market Development Association. This Association has launched a broad program of market development for wheat embracing both foreign and domestic markets and new uses.

Potatoes.--In the marketing service work with potatoes this past year greater emphasis was placed on improving harvesting, handling and merchandising practices to provide consumers with a more acceptable product. To stimulate adoption of recommended changes in practices to effect quality improvement, specialists surveyed markets for Colorado potatoes to ascertain trade and consumer preferences and presented their findings to the committees operating the area marketing orders and to growers and shippers. To help accomplish this same objective, harvesting, grading and packing operations were observed in the producing areas and assistance rendered to growers and shippers in correcting faulty practices observed.

Further work was done on the problem of loss of color in Red McClure potatoes grown in the San Luis Valley. Selection of the darker red tubers for seed promises to be one method of improving and stabilizing the color of this variety. Although controlling the quality and intensity of light will reduce color loss, no evaluation was made by the department of the feasibility of establishing proper lighting conditions in retail stores.

The Colorado department also assisted the area potato marketing order committees in planning potato promotions. Arrangements were made with retailers to feature Colorado potatoes earlier in the season and thus improve the early season demand for the crop.

Peaches.--The Colorado department worked with a large retail organization in evaluating a different method of handling peaches from the orchards in the Western Slope area to retail stores. Under this method the peaches are packed loose in open boxes and transported in this manner direct to retail stores. The two most important conventional methods have been to pack and ship the peaches in baskets or in the standard peach box (place-packed to net about 16-20 pounds). This new method (new to this peach area) resulted in a substantial reduction in fruit bruising and facilitated the marketing of more mature fruit. It also reduced marketing costs and stimulated retail sales of peaches. Work is being undertaken to adapt this method to the handling of apples from packing house to the retail store.

Lettuce.--The Colorado department continued work to improve the collection and dissemination of marketing information about lettuce in the San Luis Valley area.

Beef.--Assistance was given the beef cattle industry in developing a proposed beef marketing order. Hearings have been held on this proposal and it will be presented shortly to the industry for its approval or disapproval.

Eggs.--A group of egg producers was helped in organizing a centralized grading, packing, and selling operation. Information was supplied another producer group on possible ways it could improve the marketing of eggs.

FLORIDA

Improving quality and expanding outlets (eggs) (FLA-A-1)

Activities of the Florida department designed to improve egg quality involved the holding of egg grading schools; assistance to packers, wholesalers, and retailers in improving grading, handling, temperature control and merchandising; and the development of a State "Seal of Approval" program to encourage the production and marketing of higher quality eggs and the identification of these eggs in marketing channels.

The Florida department utilized all available media in its efforts to promote eggs and poultry meat. A regularly scheduled monthly 15-minute program was televised to audiences in the three largest consuming areas of the State; in cooperation with the Agricultural Extension Service, a series of spot announcements was prepared and released to 22 television and 72 radio stations; publicity material and food articles were prepared and released to newspapers, magazines and trade journals; exhibits portraying the factors of quality in eggs and poultry and their food value were made up and displayed at fairs and other events; personal appearances were made by marketing specialists before civic and other groups to demonstrate grading methods and encourage greater consumption of poultry and eggs; and in an effort to bring buyers and sellers of poultry products together an egg clearing house was maintained to facilitate the movement of Florida eggs throughout the State. In cooperation with industry groups various statewide promotional campaigns such as "Egg Month" and "Egg Breakfast" were conducted.

As an outgrowth of these service activities, per capita consumption in the State of Florida for 1957-58 increased by 21 eggs, or approximately 8 percent, as compared to a decrease of 2 eggs for the Nation as a whole.

Providing new basic information (tomatoes) (FLA-D-1)

Reports issued under this project provide the Florida tomato industry with estimates of the acreage planted to tomatoes by weeks and areas of production throughout the production and marketing season which extends from August through June. Information on growing conditions and progress of the crop in each area also is furnished in these reports. The data for these reports are obtained by fieldmen who make regular visits to tomato producing farms at weekly or bi-weekly intervals and from official weather bureau stations.

This program, which was initiated during the 1956-57 season, provided tomato growers, shippers, and others for the first time with specific and timely information upon which intelligent production and marketing decisions could be based. The reports gave an indication of future changes in supplies sufficiently in advance for supply adjustments to be made or for plans to be put into action to alleviate the effects of temporary surpluses. Allied industries, such as those furnishing containers and transportation, benefited from the reports. A survey among growers, shippers, and "suppliers" at the end of the past marketing season revealed almost unanimous approval of the reports and a desire to have them continued.

Improving production forecasts (citrus) (FLA-D-2)

An accurate preseason estimate of the size of the citrus crop is a basic need of the Florida citrus industry. Growers, packers, shippers, processors, suppliers, and buyers must make vital decisions concerning their operations long before the harvest, which extends from October through June, is complete and the actual crop size is known. This project, which became active in April 1956, has for its main purpose the improvement of the preharvest forecast. The Florida department is conducting it in cooperation with the Florida Agricultural Experiment Station, Florida Citrus Growers Administrative Committee, and the Agricultural Estimates Division of the Agricultural Marketing Service, U.S. Department of Agriculture.

The methodology involves objective counts and measurements such as the frame count, limb count, and growth and droppage surveys. When these are converted into forecasts of production and used in conjunction with other indications, the degree of accuracy in the resulting forecasts has been quite satisfactory. For the 1958-59 season, the October forecast of production came within 1.2 percent and 3.5 percent, respectively, of the harvested orange and grapefruit productions.

The field work for the frame count, limb count, and initial growth survey was started on August 3, 1958 for the 1958-59 season. A new technique, to be used next season, was developed from the experimental work conducted last year in estimating fruit droppage. Instead of the more cumbersome under-tree drop counts, fruit droppage will be estimated by noting the disappearance of fruit on small, tagged limbs.

In converting the data provided by the counts and surveys made under this project into preharvest estimates, information was used which was provided by another matching fund project, now terminated, conducted by the Florida Department of Agriculture. In this other project, a count was made of all citrus trees in the commercially important counties of the State. Although tree losses from the 1957-58 season freeze have not been measured with high precision, small sample estimates of these losses together with nursery movements of citrus trees provide the best available estimate of numbers of bearing trees.

Detailed information concerning the methods and procedures used in designing the samples and making the measurements can be secured by communicating with the Office of the Agricultural Statistician, 1222 Woodward Avenue, Orlando.

GEORGIA

Improving quality and expanding outlets for livestock (GA-A-1)

The major emphasis under this project last year was placed on improving the quality of market hogs and feeder pigs and in developing more effective methods of selling this and other species of livestock. Efforts directed at quality improvement involved demonstrations of live grading in accordance with USDA standards, carcass grading demonstrations, and barrow shows, and the organization, in cooperation with the Extension Service, of an "On the Farm Swine Testing Program" for meat-type certification of breeding stock. Continued emphasis

is being placed on the importance of meat-type replacement breeding animals. Assistance was given potential buyers in the selection of breeding stock with the desired meat-type characteristics.

To improve outlets for feeder pigs in one area, a monthly sale was organized. An average of about 450 pigs were sold at each sale at prices of about \$2.50 per pig above those obtained through alternative outlets.

A similar type of sale for market hogs was organized at this same location. These hogs were graded and sold on the basis of USDA standards. Producers and buyers were well satisfied with the results and plans have been made to expand this program to other areas in the State.

In cooperation with the Extension Service, specialists of the Georgia department participated in special sales for graded feeder calves and lambs. These sales also were used to demonstrate official grading methods and the advantages of organized selling. At the four feeder calf sales held in the fall of 1958, the 2,500 calves sold brought \$2 per hundred pounds above the prevailing prices for comparable grades and weights through regular outlets. This same premium was maintained for the approximately 3,500 calves sold at the 4 feeder calf sales held in the fall of 1959.

Assistance provided by the department in conducting spring lamb sales was of special significance since Georgia lambs raised for slaughter must be marketed out of the State. Grading demonstrations were given at each of the 9 sales held during the year. Department specialists also worked with the Extension Service in conducting the 5 wool pools through which about 126,000 pounds of wool were sold.

Specialists continued the program of promoting livestock conservation. Demonstrations were given on how to reduce bruising and injury to animals during handling on the farm and in transportation to market.

Improving seed quality (GA-A-2)

The problem of low-germinating peanut seed has been confronting Georgia farmers since the first use of mechanical equipment for harvesting and shelling peanut seed. The Georgia department has concentrated on trying to improve the quality of seed, thereby increasing the market value, and at the same time cutting the cost of planting a peanut crop by providing seed of high germination which could be planted at a lower seeding rate.

In the spring of 1958, one sheller in Georgia lost over \$40,000 worth of peanuts because he did not check the quality of his seed before treating them. He treated his peanuts with a mercurial fungicide as they came off the sheller. Then, when the samples were tested in the seed laboratory, they were found to be lower in germination than the legal minimum required under the Georgia Seed Law. Since these peanuts were treated with a mercurial compound, they could not be diverted to the edible trade and he had a total loss.

In the spring of 1959, this same firm, working under the department's supervision, took samples of peanuts as they came off the sheller and hand treated them for testing in the laboratory. At the same time the bulk of the

peanuts were bagged in 120-pound bags and stored until the results on germination were received from the seed laboratory. Any lot of seed that showed a good germination was then treated and used for seed purposes. The lots with low germination were diverted to the edible peanut trade and by operating in this manner this firm, which lost over \$40,000 worth of peanuts in 1958, had absolutely no loss in 1959.

In one case this spring, 100,000 pounds of peanuts, which had been treated, were sampled and tested in the seed laboratory and found to be too low in germination to be used for seed. However, it was found that these seed had not been adequately treated so a sample was hand treated in the laboratory at the proper rate and the germination was increased so that these peanuts could be used for seed. When this information was furnished to the owner of the seed, he agreed to retreat the entire lot under supervision. There was very little cost in retreating the seed and by doing this he was able to sell all these peanuts for seed, thereby avoiding a loss of about \$30,000.

In 1958, the department found that 45 percent of the rye tested in the seed laboratory for farmers in Georgia had a germination of below 75 percent. When visiting these farmers, it was found that the rye had not been dried and that the low germination was the result of the storage conditions to which the seed had been subjected. The owners of this poor seed were advised to dry their seed before storing it. As a result of these visits less than 10 percent of the rye has failed to go above 75 percent germination.

Improving quality and expanding outlets for fruits and vegetables (GA-A-3)

Prior to the vegetable planting season, the Georgia department participated in a short course for producers and shippers at the University of Georgia and discussed the requirements for marketing products of high quality. Also prior to harvest the department conducted a survey in each producing area to estimate the acreage planted to each vegetable crop, the varieties planted, and the expected date when harvest of each crop would begin. This information was compiled in booklet form and distributed to buyers over the eastern half of the United States.

During the marketing season, representatives of the Georgia department were stationed at the various assembly markets over the State to observe the quality of deliveries being made and to show growers how to regrade lots below acceptable quality standards to bring them up to the desired quality level. Less of this assistance was needed last year than in previous years due to the effects of the quality improvement work which was begun in 1956.

These services helped assure an adequate number of buyers at the different assembly markets in the State.

Work was continued with groups of producers organized on a cooperative basis to market their products. These groups, four of which are marketing sweetpotatoes, one peaches, one apples, and one tomatoes, are being encouraged to establish a reputation for marketing fine quality products.

With the opening of the new Atlanta Produce Market in January 1959, efforts of the Georgia department to improve the quality of products being sold were intensified.

Improving quality and expanding outlets for eggs (GA-A-4)

Activities under this project during the year were concentrated on the following:

1. Assisting producers in improving egg quality by demonstrating to them proper handling and grading methods.
2. Providing intensive training to producers, employees of egg packers, wholesalers, and retailers in egg grading procedures and how to properly handle, store, and merchandise eggs.
3. Providing promotional assistance to the egg industry in increasing egg consumption within the State and helping to find outlets in other States. This work was done in cooperation with the Poultry and Egg National Board and the Georgia Egg Association.

As a result of these activities the quality of Georgia eggs has increased, as shown by the fact that only 43,812 dozen eggs were withheld from sale during the past year, compared with 102,021 dozen when this program was started. It is estimated that of the eggs sold at retail 95 percent are Grade A and only 5 percent are Grade B, while only 25 percent met Grade A standards before this project was initiated.

Improving the quality of cornmeal (GA-A-5)

Efforts were continued to improve the quality of corn available to cornmeal millers in the State. A survey was made among these millers to determine their varietal preferences with respect to corn. Farmers in Georgia were informed of these preferences, and, as a consequence, production of the desired varieties last year was greatly expanded. As a result of activities under this project more producers and millers are using proper facilities and methods for storing corn. This has reduced deterioration and contamination.

Help was given a number of millers in converting equipment and selecting and installing new equipment to improve plant efficiency and also to produce additional forms of corn products. A series of slides is being accumulated showing the methods used and steps involved in making many of these improvements. These slides have been useful in demonstrating to the industry what achievements are possible.

Providing new basic data (GA-D-1)

The emphasis under this project during the year was on improving information relative to dairying in the State. A publication "Georgia Dairy Facts" was issued in December 1958, and one entitled "Georgia Dairy Report" was released in April 1959. These publications provide a breakdown of milk cow numbers, milk production, sales, and so forth, by counties; and specific

information with regard to the production, utilization, sales, and price of Grade A milk.

A supplement to "Georgia Agricultural Facts 1900-1956" was compiled during the year and has been sent to the printer. The original publication was prepared and issued under this project in 1957.

In response to demands for broiler production estimates by counties, this information was prepared and released during the year. Another activity under the project was the collection of data on chicks hatched and the preparation and release of weekly hatchery estimates.

HAWAII

Developing new and revised standards for grades of processed fruits and vegetables (HI-A-1)

The Hawaii Board of Agriculture and Forestry completed work during the year on the development of grades and standards and methods of measuring quality factors for a variety of tropical products, including purees, nectar bases, nectars, and nectar blends of guava, passion fruits, and papayas. Permanent standards were developed and handbooks for inspection written for the following products:

- Frozen Guava Nectar Base
- Frozen Guava Puree
- Frozen Papaya Puree
- Frozen Passion Fruit Juice
- Frozen Passion Fruit Nectar Base
- Canned Guava Nectar
- Canned Papaya Nectar
- Canned Papaya-Passion Fruit Nectar Blend
- Canned Passion Fruit Nectar

The Processed Foods Laboratory at the University of Hawaii, the Processed Products Standardization and Inspection Branch of the Agricultural Marketing Service, U.S. Department of Agriculture, the Processed Foods Office in Puerto Rico, the Pineapple Research Institute, and the processors of papaya, passion fruit, guava, and other products were very cooperative in their efforts to develop standards that would be useful to the processing industry of Hawaii.

ILLINOIS

Improving quality and expanding outlets for farm products (ILL-A-1)

Eggs.--Nearly 250 producers, wholesalers, and retailers attended the series of egg grading schools conducted by the Illinois Department of Agriculture in cooperation with the University of Illinois, Southern Illinois University, the Illinois Poultry Industry Council, and the U.S. Department of Agriculture.

The availability of this group of trained egg graders has helped to make possible the rapid expansion in egg grading programs needed to stimulate quality improvement and to enable marketing firms and retailers to comply with provisions of the Illinois Egg Law. These training schools were supplemented by an informational program to acquaint members of the egg industry with official grades and grading methods.

The intensified activities of the Illinois department relating to egg quality improvement and general industry changes in egg marketing have resulted in increased requests for assistance in developing improved methods, facilities, and organizations for marketing eggs. Work is progressing in three areas of the State with producer groups interested in establishing organizations to market their eggs on a graded basis. Several existing egg assembly and packing plants have converted to this method of procurement and selling as the result of activities under this project. A survey of consumers in the Peoria area was conducted in cooperation with Bradley University to obtain information needed in improving egg marketing practices.

Fruits and vegetables.--The "buyer informational program" for fruits and vegetables was continued this past year. Newsletters were prepared throughout the crop season calling attention to the location of producing areas, volume of production, quality, variety, probable harvest dates, and names and addresses of local shippers. These newsletters, together with a guide map, were sent to about 5,500 buyers over a 24-State area.

Progress was made in increasing the volume of peaches shipped to market under refrigeration. There was not a single damage claim filed or call for reinspection made on these shipments. In contrast, a number of reinspections were required and claims filed on shipments without refrigeration.

Expanding outlets for dairy products (ILL-B-2)

The cottage cheese quality improvement and promotion program started in 1957 was expanded last year. In cooperation with various industry associations and the Department of Food Technology, University of Illinois, quality control and merchandising clinics were held with cottage cheese processors located in the counties selected for the expanded program. At these clinics samples of each processor's product were scored for quality, and measures for eliminating each quality defect were explained. This phase of the clinic was followed by a discussion of effective merchandising techniques, and presentations by representatives of several dairy industry associations, the Pacific Coast Council Pear Service, and the California Cling Peach Advisory Board of promotional material available from these agencies. Publicity about the clinics and the forthcoming promotional effort was disseminated to all newspapers and radio and television stations in the counties. Brochures explaining the program were provided all high school home economics teachers and home demonstration agents. Processors participating in the promotion which was conducted during the Lenten period reported sales gains as high as 42 percent over the same period the preceding year.

Results of the pilot program started in one city school system in 1957-58 to stimulate diet improvement, including increased use of dairy products, of

elementary and high school students have been gratifying. In the 1958-59 school year the number of balanced meals and the amount of milk consumption increased 35 percent and 42 percent, respectively, over the preceding year. The increase in enrollment in the system was less than 2 percent. The success of this pilot test has stimulated this school system to place the program on a continuing basis and also stimulated over school systems to adopt similar techniques for improving the diet of students. The dairy marketing specialist assigned to the project was requested to assume the leadership in these efforts. The report on the 1957-58 pilot plan, entitled "Testing and Teaching," was released in October 1958.

Dairy industry leaders and organizations were again assisted in planning and conducting June Dairy Month activities. A "dairy smorgasbord" was a special feature of the June Dairy Month program in two counties. Over 1,500 persons became acquainted with new methods of preparing and using dairy products in menus.

Improving facilities and methods of packing and handling fruits and vegetables (ILL-C-1)

Under this project continued assistance was given local fruit and vegetable marketing agencies in expanding facilities, selecting new equipment, and in adopting improved grading and packing procedures. The three vegetable marketing agencies in southern Illinois which the department assisted in establishing centralized packing and selling operations and in standardizing grades and packages continue to grow. This growth reflects the improvement in net returns to producers marketing through these agencies. For example, during 1959, producers marketing cucumbers through these agencies received on the average about \$1 more per bushel than did producers who did their own packing and selling.

A large peach grower was assisted in planning a new packing shed and in testing a different type of package for marketing firm-ripe peaches. These tests revealed and emphasized a number of principles that must be followed for successfully marketing firm-ripe peaches in count packs. This information will be provided other peach growers planning to convert from the standard bushel basket to other types of packages in marketing their peaches.

Providing new basic data (ILL-D-1)

This project is intended to provide new and improved data urgently needed by producers and marketing agencies in making marketing decisions. One of the earliest series developed under the project was the quarterly estimates of sow farrowings. These estimates were published again last year along with similar data from nine other States. This series on sow farrowings has helped to level out the seasonal fluctuations in pig production, resulting in more orderly marketing of hogs. This expanded program for hogs has stimulated and facilitated the gathering of needed new data on monthly calf births, both beef and dairy, and monthly lamb births.

One gap in the data on the principal field crops being filled under this project is that pertaining to varieties. Annual estimates of wheat acreage by varieties provide an indication of the amounts of hard and soft wheat being produced. Since these acreage estimates are made by crop reporting districts

they also provide information about the distribution of these two classes of wheat within the State. Since maturity dates for soybean varieties differ, the varietal acreage estimates for soybeans provide a guide as to where and when marketing of the new crop is likely to start. This information on acreage is supplemented by weekly reports prior to harvest on maturity development. Those engaged in handling, transporting, and processing soybeans make practical use of this information in scheduling their operations.

One recent series developed on a crop reporting district basis relates to the beef cow population. Work has been started on a county series of beef cow numbers.

A survey of fruit tree plantings conducted in the spring of 1959, provides a basis for not only measuring the shift to popular new varieties but establishes a basis for forecasting changes in future production. This basic data on tree numbers also is invaluable as an aid in forecasting current production.

The semiannual survey of timber prices was continued. This report which provides data for four zones in the State has helped to reduce speculation in timber products and to make producers aware of the variety of products which can be marketed from their timber holdings and the market values of each type. This activity has created interest among timber marketing groups in other States for a similar service, and information about the Illinois program has been furnished several States. In some of these, surveys of this type have been initiated.

A special report on forage crop trends was prepared for a meeting of alfalfa seed producers, seedsmen, and research workers. This report provided basic data on trends in forage use and seed requirements useful in forecasting future demand for alfalfa seed. Requests for over 1,000 copies of this report were received. Special reports of this nature were prepared for other groups and agencies covering a wide range of farm commodities produced in Illinois.

INDIANA

Improving the quality of dairy products (IND-A-1)

Activities were continued under this project to promote the use of uniform grades and standards by dairy plants, to train plant employees in the application of these grades and standards, and to assist plants in adopting practices and procedures necessary in attaining uniformly high quality products.

Various means are being used to implement the objectives of the project, including meetings of plant managers, fieldmen, and milk graders, at which grading methods and results were discussed and progress in improving milk quality was reviewed; clinics on such products as market milk, ice cream, and butter-milk, at which organoleptic grading, chemical, and bacteriological analyses were made and evaluated on samples submitted by clinical participants; and plant surveys to assist managers in improving plant sanitation and processing methods. The latter included a survey of all the 76 cream buying stations in the State.

This program has reduced substantially the volume of milk rejected as undergrade. Milk rejected by cooperating plants last year amounted to about 2,000,000 pounds compared with nearly 5,400,000 pounds during the year preceding the start of this program. With total volume being about the same in the years being compared, this means an increased annual return to producers of about \$100,000 due to the reduced rejection rate.

An increase of about 15 percent in cottage cheese consumption in Indiana during each of the past two years is credited in part to the adoption by processing plants of an improved method of manufacture recommended by dairy marketing specialists working on this project.

Maintaining quality and expanding outlets for floricultural products (IND-A-2)

This project was activated near the end of the reporting period, and as a consequence no report of activities and accomplishments was made.

Improving marketing practices and expanding outlets for Indiana farm products (IND-B-1)

The work under this project is concerned with two main goals: (1) To improve the management function in marketing firms and the structure and efficiency of the marketing system for Indiana farm products, and (2) to devise and put into effect techniques and arrangements for increasing the consumption within the State of locally grown products and to help move temporary surpluses into consumption.

An institution known as "The Marketing Clinic" was organized by Purdue University to train marketing personnel in business management and to provide current information on specific commodity marketing problems. The 1959 clinic had as its theme "Retooling for Tomorrow's Markets" and was attended by about 350 leaders in agricultural marketing, most of whom were actually engaged in day-to-day marketing operations. The clinic was supplemented by various releases and articles in trade magazines during the year reporting the results of marketing research and analyses of commodity situations. Specialists assigned to the project also acted in an advisory capacity to many different industry groups and marketing firms on specific marketing programs and problems. One of the most important of these groups is the Indiana Farmer-Retailer Committee, which is made up of representatives from commodity interests, marketing agencies, and others concerned with the marketing of agricultural products. This committee has the responsibility for developing a program to improve the marketing of Indiana farm products, and to implement and coordinate programs designed to remove temporary surpluses. It sponsored legislation to authorize the Indiana Seal of Quality on products meeting certain quality standards. During the past year the Committee was assisted in developing the requirements and specifications for a Seal of Quality Program for eggs, which is expected to be placed in operation next year.

A survey was undertaken last year of the southwestern Indiana fruit and vegetable marketing situation to evaluate the potential market demand for different products suited to the area, and to determine the functions and the type of organization that could best handle first-stage marketing of the area's crops.

An outgrowth of this survey was the formation of a new marketing cooperative. This cooperative was assisted in perfecting the legal organization, arranging for financing, planning facilities, selecting packinghouse equipment, and determining marketing policies.

In conjunction with the Farmer-Retailer Committee, Purdue specialists conducted a publicity program to encourage increased egg consumption during the critical surplus period last year.

Improving the quality of canned vegetables (IND-C-1)

Assistance to the Indiana vegetable canning industry in improving product quality was provided through meetings and clinics with plant personnel, plant surveys of sanitation and processing methods, studies of specific quality problems, and training of plant workers in quality measurements and control techniques.

A conference on canning technology for plant personnel at the management level was held again last year. This program was requested by canners two years ago, and indications are that it will become a permanent phase of the work on quality improvement. In addition to this conference, a clinic for workers responsible for plant sanitation was held, as was the annual mold and insect school, which has become an institution under this project.

Two problems which contribute to the development of spoilage organisms in canned tomatoes and tomato products were given attention during the year. Improper methods of working the raw stock during the fluming process often are responsible for spoilage losses. Several canners were assisted in overcoming this problem. Another recent source of spoilage losses is excessive PH values in the raw product. At values near or in excess of 4.5 the hazard of butyric spoilage may assume considerable importance. A survey was conducted to measure this factor in various tomato varieties in order to inform the canning industry about the hazard involved and to suggest a course of action.

Providing marketing information and improving marketing efficiency (IND-D-1)

Providing Indiana farmers, marketing agencies, and other interested individuals and groups with a broad spectrum of marketing information continued to be an important phase of this project. But increasing emphasis is being given to another dimension of the "marketing problem," that of assisting farmers and marketing agencies in making direct application of business principles and of the body of facts flowing from marketing research to their individual and group problems.

Specialists assigned to this project contributed numerous articles on marketing subjects, including commodity outlook information, to the monthly Purdue publication "Economic and Marketing Information For Indiana Farmers" which is distributed to about 22,000 farmers, marketing firms, agricultural leaders, and others interested in agriculture. General farm journals and commodity publications also carried many of these articles, thus greatly expanding the coverage received. Much of the marketing material was organized along specific commodity lines and disseminated in that form. Examples of this are the produce supply report which provides buyer information on the seasonal availability of Indiana

fruits and vegetables, and the detailed commodity situation reports and releases concerning foods in plentiful supply. The situation reports included information on local and national conditions influencing the marketing of the particular commodity. These were distributed through producer publications, special news releases, Purdue University periodicals, and by personal contacts. Demand for marketing information packaged in this manner is growing and plans are to expand this phase of the project.

In addition to work with marketing firms handling a variety of products, activities to improve marketing efficiency by helping producers and marketing agencies apply existing business principles and marketing research findings also were conducted in three commodity areas--livestock, dairy, and fruits and vegetables. The work will be described under the following headings:

General.--A large integrated cooperative comprising 84 operating units was assisted in determining the volume of products needed for the most efficient conduct of the business. Assistance was given another statewide cooperative in establishing a personnel policy and training program for its employees. Various producer groups were helped to determine the type of business organization needed for marketing their products.

Livestock.--In cooperation with the Extension Service, a training program was held for personnel of 70 central livestock marketing firms to improve their knowledge of the livestock marketing system in Indiana. Topics included factors determining the value of slaughter hogs, marketing pork as a differentiated product, and an evaluation of various proposals for improving the efficiency of marketing hogs through the yard. Several improvements in operations have been adopted as a result of this training program. Assistance was given livestock marketing interests in evaluating locations for 5 new markets. The procedure developed for this purpose was based on research work conducted by the Agricultural Economics Department of the Purdue Agricultural Experiment Station. Up to the present, all 12 markets established at recommended locations have been successful. The one market which was located contrary to recommendations failed within a short time. Results of the work in marketing meat-type pork as a differentiated product has been given wide publicity, and conferences have been held with various groups and marketing firms to help them evaluate the possibilities of adopting this method of merchandising pork.

Dairy.--Producers and marketing agencies in two areas of the State were helped in developing and evaluating marketing data concerning Federal marketing orders. Data regarding the proper marketing area were presented by University representatives at a hearing on one of the proposed milk orders. In the other area, assistance also was given in bringing together data needed in planning a bulk milk procurement system.

Fruits and vegetables.--Specialists under this project participated in the activity described under project IND-B-1 of organizing a marketing cooperative for fruits and vegetables in Southwestern Indiana.

Providing new marketing information (IND-D-2)

The quarterly (March 1, 1959 and September 1, 1959) pig survey reports were issued by the Indiana Cooperative Crop and Livestock Reporting Service as the

result of activities under this project. Other States which are conducting these quarterly surveys on farrowings under matching-fund projects and which are included in a consolidated 10-State report are Ohio, Illinois, Wisconsin, Minnesota, Iowa, Missouri, South Dakota, Nebraska, and Kansas. Experience in Indiana suggests that hog farmers are using the information to reduce the seasonality in their hog production and marketing operations. In 1952, before the quarterly reports were initiated, marketings of hogs by farmers ranged from a low monthly percentage of 5.7 percent in July to a high of 10.4 percent in March; in 1958, the extreme range in monthly percentages was from 6.7 percent in June to 9.8 percent in September.

IOWA

Improving quality of agricultural products (IOWA-A-1)

This project was initiated late in the reporting year, and there were no activities to report.

Providing new market information (IOWA-D-1)

Under this project, the Iowa Crop and Livestock Reporting Service provided new and supplementary information for a wide range of farm products needed in evaluating probable market supplies, the time and rate of movement to market; expected quality; geographical concentration of supplies; and changes in the organization, size, and distribution of producing units which have a bearing on the kinds of facilities and agencies which are required for efficient marketing. The main types of data assembled and published related to:

1. Number of sows farrowing by quarters, September 1, December 1, March 1, and June 1, with some further emphasis on monthly farrowings, pigs saved by months, and other factors affecting marketings.
2. Trends in numbers of hog farms and sow farrowings by size of operation classifications.
3. Chicken flock changes in number and size of flocks.
4. Hog and cattle inventory patterns.
5. Milk production and marketing patterns.
6. Egg production and marketing patterns.
7. Quality of the corn crop.
8. Soybean varieties.

An important aspect of the work under this project is the search for more accurate and efficient methods of securing the data and the development of more effective ways of disseminating it. For example, separate questionnaires

were sent to a list of livestock producers in an attempt to provide extra and separate sample data on sow farrowings and inventory numbers on a quarterly basis. The purpose of this test is to determine if four quarterly surveys can be made independently and give consistent results. It may provide an evaluation of different sampling methods, differences in reporting, and a more accurate determination of seasonality in sow farrowings, litter sizes, and death losses.

KANSAS

Improving the quality of dairy products (KAN-A-1)

Work under this project is being redirected to cope with quality problems arising from changes in marketing practices and the form in which the raw material is received by the processing plant.

The program to improve cream quality, which has been in effect since 1949, was continued unchanged in content, but was given less emphasis in keeping with the declining importance of farm-separated cream in butter manufacture. Training schools were again held for cream graders, field superintendents of creameries, and buttermakers in grading and quality control methods. A series of cream-straining days at cream buying stations over the State was also held.

In quality improvement work relating to manufacturing milk, increased emphasis was given to the training of milk haulers in the fundamentals of quality control so that they could provide greater assistance to producers having quality problems. This has been a very effective approach since haulers dislike to return rejected milk to a patron. Similarly, training programs for operators of bulk tank trucks have been expanded and intensified. Under the bulk tank method, the hauler has become a grader, sampler, and weigher of milk. Most bulk tank operators in the State have had little experience and training in milk grading and sanitation procedures. Two training conferences were held last year for bulk tank operators with 117 men attending.

A summary of milk and cream condemnation reports indicates that this service project has resulted in a substantial decrease in the amount of condemned milk and cream received at buying stations. The sour cream straining summary revealed that 95 percent of the cream graded first grade or premium cream.

Improving marketing methods and expanding outlets (KAN-B-1)

Wheat.--During the past year the Kansas Board of Agriculture has continued to work in close cooperation with the Kansas Wheat Commission in such activities as preparing promotional material, assembling and distributing nutritional information on wheat products to various agencies and groups, and demonstrating to teams of foreign buyers the qualities available in Kansas wheat. The marketing division helped prepare a bulletin on the marketing of Kansas wheat which has been distributed to both domestic and foreign grain buyers. The Kansas Wheat Commission is a member of and provides financial support to the Great Plains Wheat Market Development Association. This Association is active in developing foreign markets for wheat grown in the great plains area of Kansas, Colorado, and Nebraska.

Livestock and meat.--In cooperation with the Kansas Livestock Association, the marketing division held a series of meat merchandising schools for wholesalers, retailers, institutional users, and consumers to familiarize them with the proper methods of buying, cutting, handling, displaying and preparing the various qualities and cuts of beef, pork, and lamb. In addition to these schools, demonstrations featuring the nutritive qualities of meat and proper cutting and cooking methods were given before various groups. Material on these subjects also was assembled and distributed to all home economics teachers and home demonstration agents in the State. Results of this project, which was initiated less than a year ago, show an increased consumer acceptance of meat and meat products, with a steady increase in the per capita consumption of these products.

Assistance was given a large food merchandiser in developing plans for a plant to process meat, poultry, and cheese. A livestock packer was given advice on the construction and layout of a hog slaughtering plant with a capacity of 2,000 hogs per day.

Over 50 percent of the cattle and calves sold in Kansas were sold through local auction markets last year. Although no information has been collected on prices being paid for the various grades and classes at these auctions, the department is exploring the feasibility of reporting such information on a regular basis.

Poultry and eggs.--The marketing division continued various activities designed to encourage improvement in egg quality and in the buying and selling of eggs on the basis of established grades. Training programs in grading were held to provide qualified personnel for marketing agencies adopting grading programs. Assistance was given in conducting egg grading contests for FFA and 4-H participants. The marketing division cooperated with the Extension Service and the Kansas Poultry Association in conducting a series of 12 meetings at which improved marketing practices for eggs were discussed. Nearly 3,700 people attended these meetings.

The data in the following table indicate the progress that has been made in egg quality during the past few years. The figures for 1955 and 1958 are for identical firms.

Item	Percentage increase or decrease	
	Year	
	1955	1958
	Percent	Percent
Eggs purchased on graded basis.....:	39.0	66.0
Eggs purchased that were U.S. Grade A :		
quality.....:	67.0	78.0
Loss on inedible eggs.....:	3.3	2.3
Producers having egg coolers :		
on farms.....:	5.4	28.6

A survey conducted by the marketing division brought out that preferences for eggs by size and by interior and exterior quality factors vary over the State. The details of the survey will be furnished egg marketing agencies to help them in their marketing operations. An egg marketing firm was given assistance in expanding and modernizing its egg-breaking facilities.

Dairy products.--In cooperation with the Dairy Institute of Kansas, the marketing division staged demonstrations before various groups of various ways to use cottage cheese in the menu. This work was started about five years ago and it is reported to have had a significant impact on sales of this product. Specialists of the division participated in the June Dairy Month Festival and helped to adopt national promotion and publicity material for more effective use at the local level. The improvement in dairy product quality resulting from activities under project KAN-A-1 has contributed to the favorable results being attained under this project.

Fruits and vegetables.--Continued assistance was given vegetable producers in the irrigated farming areas of southwestern Kansas in improving quality and market outlets for their products. An operator of one marketing agency handling cantaloups reported that as a result of this assistance he was able to return an additional 50 cents per crate to producers, an increase of \$30,000 on the 750 acres produced.

Furnishing new marketing information and basic data (KAN-D-1)

Grain.--Data assembled and published under this project supplemented the grain marketing information provided producers, the grain trade, and others by the Kansas State Board of Agriculture. The wheat quality survey was one of the important activities designed to provide this supplemental information. Last year a total of 7,106 carloads, representing all of the 105 Kansas counties, were included in the sample. Protein content, test weight, and moisture control were the quality factors measured. Ten special releases were issued during the survey period to provide information as current as possible. Other special information on grain provided under the project related to wheat varieties being produced, sorghum and soybean varieties, wheat prices by grades, and grain storage capacity and stocks. The Kansas board contributed the chapter entitled "Wheat Facts and Figures" in the bulletin "Marketing Kansas Wheat" referred to in the discussion of project KAN-B-1.

Livestock.--The March 1 and September 1 quarterly surveys of sow farrowings were conducted under this project to supplement the regular June and December Rural Carrier livestock surveys. Results of monthly surveys were published on prices paid for beef cattle by classes. This activity was undertaken in response to requests of the livestock industry.

Poultry and eggs.--Special surveys were conducted to measure and report monthly prices of eggs by grades and chickens by classes.

KENTUCKY

Improving marketing methods and expanding outlets (KY-B-1)

Livestock.--Objectives under this project are to assist the livestock industry in adopting improved methods of marketing livestock and livestock products, and increasing the efficiency of marketing facilities. As in many other States, livestock auctions represent an important and growing outlet for Kentucky livestock. Initial contacts have been made with operators of all the 67 auctions in the State for the purpose of explaining the aims of the program and to lay the groundwork for future service activities. As an outgrowth of these contacts, a number of operators have requested assistance in determining what improvements in yard facilities and methods of handling and selling are needed and feasible. The department conducted surveys and studies of several auctions and a number of suggested improvements were made. For example, help was given in the planning of a new auction facility in eastern Kentucky valued at \$250,000, which provides producers with an improved outlet for about \$600,000 worth of livestock.

For the most part the selling of livestock in Kentucky is not conducted on the basis of official grade standards, or, for that matter, on any quality or merit basis. The auctions and other livestock marketing agencies in the State are being encouraged to initiate some selling by grade. One auction inaugurated official grading of lambs last year. It is reported that this change attracted more buyers to the market, and increased volume handled and prices received by producers. Progress was made toward eventual establishment of a grading program for hogs in southern Kentucky. The specialist assisted in conducting the lamb pools held in eastern and western Kentucky which provided a means of demonstrating to producers the quality of lambs being marketed and the influence of grade on price. Assistance was given several producer groups in establishing and promoting special sales of feeder calves and pigs on a graded basis. Last year about 15,000 calves and 11,000 pigs were marketed through these sales, which were held in the facilities of local livestock marketing agencies. Various publicity channels and means were used to promote these special sales, including a buyers' guide for feeder pigs, press releases, radio broadcasts, and T.V. programs. Four T.V. stations granted free time to the specialist for explaining the detailed arrangements concerning these sales.

Increased attention was given to the problem of improving the marketing of breeding stock. The department promoted and participated in a number of shows designed to stimulate interest in good breeding stock. A number of market show-sales were held to demonstrate the use of USDA grade standards for slaughter cattle, lambs, and hogs.

Eggs and poultry.--Activities during the year to improve egg quality included the holding of three egg grading schools, assisting marketing agencies in reducing losses from checking and breakage during handling, demonstrating official egg grades and grading methods to various interested groups to encourage buying and selling on the basis of grades, and working with individual egg marketing firms in adopting grading systems. Five buying stations are now purchasing all of their eggs on a grade basis as a result of this work. To reduce losses from checking and breakage, the specialist helped design a wrap-around crate which could be used to shield pallet loads of eggs from contact

with other merchandise during storage in the warehouse and during transportation to retail stores. One retail chain is now using this crate.

With reference to poultry marketing, the specialist assisted representatives of the Agricultural Marketing Service in determining which processing plants would need to be brought under Federal inspection in accordance with provisions of the new Federal Poultry Inspection Act, gave advice and assistance to plants preparing for inspection, and conducted radio and T.V. programs explaining the new law. This work greatly reduced the time, effort, and expense of the plants in preparing for inspection.

These marketing activities were conducted in cooperation with the University of Kentucky, Kentucky Poultry Federation, Kentucky Poultry Improvement Association, Kentucky Farm Bureau Federation, Kentucky Chain Stores Council, and Independent Grocers Association.

Dairy.--The department revived efforts to increase the placement of milk vending-machines in manufacturing plants over the State, and stepped up promotional work with schools and other institutions to increase the consumption of dairy products. As a consequence of this renewed activity, the Farm Bureau has appointed a committee to help plan and conduct this phase of work under the project. Prospects are that these efforts will be successful in several plants which have been contacted.

Work in developing breed promotional sales was expanded. The specialist helped in the selection of cattle and on other activities connected with the sales. There was an increase of about 15 percent over the preceding year in the number of dairy cattle sold through these sales.

Fruits and vegetables.--To improve market quality and acceptability of strawberries, the department conducted a series of picking, grading, and packing demonstrations at strawberry marketing centers over the State. In addition to these formal demonstrations, specialists worked at the farm level to train pickers and packers in proper methods of performing the on-farm marketing operations. It is estimated that this program resulted in an additional return of at least \$1 per crate last year, for a total increase of about \$100,000 for the Kentucky strawberry crop. The department also helped in organizing a cooperative for marketing fresh tomatoes and assisted the organization on problems of handling, selection of containers to be used, and selling methods.

Sorghum.--Assistance was given in redesigning two sorghum processing mills during the year. One of these mills is using a new type cooking system involving a higher temperature level which permits the finished product to flow directly to the bottling room. Meetings were held with producers and processors to present information and recommendations concerning the proper stage at which to cut the cane, the necessary cooking temperatures to prevent granulation, and methods for obtaining the desired specific gravity of the product. This service is reported to have increased returns to producers by \$1 per gallon, or a net benefit of about \$50,000 to the sorghum growers selling through these mills.

Providing basic data (KY-D-1)

Under this project, a survey was conducted in response to requests from the cattle and other interested industries for more complete statistical information on cattle management, marketing practices, and facilities. The results of the survey were published in a bulletin entitled "Kentucky Cattle Management and Marketing Survey 1957-58," which contains information on cattle numbers and breeds, by areas and utilization classes, and marketing practices. Two of the more popular sections of the bulletin were prepared in leaflet form--"Distribution of Beef and Dairy Breeds of Cattle on Kentucky Farms," and "Kentucky Cattle Marketing Outlets." Requests for these leaflets have nearly exhausted the original printing of 7,000 copies each. Data obtained from this survey were also combined with information from other surveys to provide more reliable basic county data of cattle and calves on farms.

Data collection has been completed for publication of a bulletin on sheep and wool, which will be similar to the cattle report. The department also prepared and published a general agricultural data bulletin on Kentucky agriculture which included a breakdown of the estimates for important crop and livestock items by counties.

LOUISIANA

Improving quality and expanding market outlets (LA-A-1)

Strawberries.--Assistance was provided the Louisiana Strawberry Commission in planning and conducting promotional activities designed to acquaint buyers and consumers with the availability of the product and to encourage more frequent dessert uses. Increased emphasis was given to the development of outlets in southern markets. Work was continued, in cooperation with Louisiana State University, to evaluate and test new types of containers and to improve transportation methods.

Vegetables.--With increased vegetable production in northeast Louisiana, considerable effort was expended in helping producers and marketing agencies provide adequate packing facilities, adopt suitable packages and proper grading methods, and contact prospective buyers. The rapid development of fruit and vegetable production in this area resulted in a lack of adequate marketing facilities and confusion regarding the most advantageous methods of grading and packaging of this produce. Activities of the department have been directed at helping the area develop an orderly marketing program.

Dairy.--Reports from milk processing plants within the State give a complete record of utilization of all milk and milk products. The Louisiana department consolidated and summarized these reports into monthly and annual summaries. This type of information was useful to the industry in expanding outlets for Class 1 milk.

Representatives from the department were in daily contact with the processing plants within the State and assisted the plants in increasing the efficiency of plant operations and marketing activities.

With supply and demand information available from all marketing areas, the department was able to help plants in moving excess milk to deficit areas, and in moving excess milk from an excess plant to a deficit plant in the same area. During 1958, the department assisted in the movement of approximately 10 million pounds of milk between the plants and handlers in the State. Approximately one and one-half million pounds of this milk came from plants having milk in excess of their bottling needs to plants with less than their bottling needs. The additional cash income to producers resulting from this activity amounted to many thousands of dollars.

Assistance was also given milk plants in improving their butterfat sampling procedures, which has definitely improved the accountability of butterfat and reduced butterfat losses within the plants.

General.--Marketing specialists of the department helped in developing plans for a modern food distribution center in New Orleans. Similar assistance was given in determining the need for a processing plant in central Louisiana.

Improving marketing methods and expanding outlets (poultry and eggs) (LA-A-2)

During the past year, marketing specialists made regular visits to wholesalers and retailers of poultry and eggs to assist them in improving handling and merchandising methods and in the procurement of quality products. Special attention was given to the problem of training buyers in the use of official grades in buying and merchandising.

The department helped many of the new egg producers and grading plants to establish quality control programs, improve the efficiency of operations, and find outlets. Producers were advised concerning the most profitable type of marketing plan to fit their circumstances, i.e., whether to grade and carton their eggs and sell to the retail trade or sell in wholesale lots to established packers. Attention also was given to such details as selection of the proper equipment for particular operations, training of employees in the use of this equipment, and the selection and design of cartons for consumer packs.

The importance of and need for this program is illustrated by several examples. In one instance a large egg producer, new to the business, placed a large quantity of surplus eggs in cold storage without treating the shells. Marketing specialists learned of this situation before excessive deterioration had taken place and helped the producer in finding immediate outlets for the eggs, thus avoiding financial losses that would have amounted to several thousand dollars. In another case, a plant which was making improper use of labor was able to save \$110 per week by following the recommendations of marketing specialists regarding changes in job assignments. A number of packers avoided needless expenses by following the recommendations made regarding purchases of packaging machinery. Several packers had made plans to purchase machinery which could not be used with the type of carton in which most of their eggs were to be sold.

Other activities of the department to improve poultry and egg marketing included an egg grading school in cooperation with LSU, assistance to State institutions in their poultry and egg procurement programs, consultations with

poultry industry leaders concerning needed changes in official grading and quality control programs, and help to the industry in designing a better system of reporting the market.

Disseminating special market information (general agricultural products)
(LA-B-1)

This project is designed to aid producers in marketing commodities that may be lost or sold at distress prices because of poor marketing and distribution procedures in their areas.

Information as to the availability, locations, and quantities of commodities was obtained in advance of harvest through the cooperative efforts of the Louisiana Agricultural Extension Service and other agencies in the marketing field. This information was disseminated monthly to brokers, buyers, distributors, market managers, and other individuals engaged in the marketing and distribution of farm commodities. In addition, supplies of the report were provided transportation firms through the cooperative efforts of the Louisiana State Police Department, which supervises the weighing stations along the principal highways in Louisiana. A survey was conducted last year to evaluate the uses being made of the report and results indicate that a number of agencies use the report in their procurement programs.

Improving the packaging, handling, and transportation of farm products (LA-C-1)

The Louisiana department planned and conducted the regular annual transportation meeting in the Hammond strawberry area. Representatives of the Railway Express Agency, railroads, U.S. Department of Agriculture, Louisiana State University, Interstate Commerce Commission, Louisiana Public Service Commission, Louisiana Strawberry Commission, shipping agencies, as well as farmers and others, were present. As a result of this meeting, the railroads continued in effect the lower freight rate for the 1959 season that had been permitted during the 1958 season. The meeting further resulted in agreement on procedures relating to loading, icing, handling, and railroad departure time. Railroad and express representatives were particularly appreciative of the opportunity to meet with industry representatives for the discussion of future problems. The department continued cooperative work on refrigeration and container problems with the Agricultural Marketing Service and Louisiana State University.

Cooperative work was continued with Louisiana State University and representatives of sweetpotato handling agencies in the transition from wooden containers to fiberboard type sweetpotato boxes. This work has resulted in a greater use of the new type container, which appears to be better for display purposes as well as less expensive.

Service work was initiated during the year on handling and storing of small grains and rice in the northeast section of the State. Acreage in these crops in this area has increased tremendously as a result of reduced cotton acreage. New elevators and driers are being established in the area by individuals who, in most instances, are not familiar with grain operations and many problems have resulted. The department cooperated with the Louisiana Farm Bureau Small Grain Committee and Louisiana State University in establishing grading services, and in securing the adoption of improved handling and storing methods.

Improving efficiency of cotton gins (LA-C-2)

The marketing specialist assigned to this project assisted most of the 300 Louisiana cotton gins which were in operation last year in the selection and installation of the proper type of equipment, and in training of personnel to operate and adjust this equipment to minimize the damage to cotton. The advent of mechanical pickers and the use of drying equipment in the ginning process have created new problems for the ginner. Complaints from cotton mills about excessive drying of cotton in ginning resulted in the opposite practice--underdrying. The specialist assisted ginner in adjusting drying equipment so as to obtain proper temperatures and drying rates. Reports indicate that "rough prep" cotton for the 1958 season was only 0.2 percent, compared with nearly 13 percent during the 10-year period prior to the initiation of this project.

Disseminating special market information (timber products) (LA-D-1)

Timber marketing is an important source of income for thousands of small landowners in this State. The stumpage value of all timber harvested in 1958 was estimated at \$20,000,000. The timber products report issued under this project on a quarterly basis is designed to aid in the marketing of this important crop. Prior to the initiation of this service, landowners were generally confused as to the value of their products, and prices offered by prospective buyers varied by substantial amounts. Producers of timber were in a poor bargaining position and in many cases accepted bids below market value. This was especially true when the producer needed to dispose of his products quickly and there were a limited number of available buyers.

Information on prices and marketing conditions for the timber report was obtained from about 75 of the 125 mills and firms operating in the State. Products covered by the report included sawlogs, pulpwood, and poles, and stumps for distillation purposes. Information as to current prices paid to land owners or timber producers for specific items was obtained on an area basis. An average price by area and State was computed and comparisons were made with the previous quarter and annual prices for the various timber products.

These reports were sent to 351 firms and individuals in Louisiana each quarter, and to buyers and other interested persons in 17 other States. In cooperation with the Louisiana Extension Service, each quarter 5,000 copies of the report were furnished the Extension forester who, with the aid of the county agents made them available to those producers interested in marketing timber.

The Louisiana State Forestry Commission uses the reports in determining fair and accurate stumpage values to place on certain species of timber. Through the use of the report, producers can now determine the average price being paid for timber on both a stumpage and delivered-to-plant basis. The producer is able to compare prices in his own locality with those being paid in other sections of the State.

Another value of the report is that it stimulates interest in the production and marketing of forest products. Differential prices for items such as poles, for example, points up the value of producing quality timber.

The need for reliable information on marketing forest products will continue to be felt since timber production in Louisiana is becoming more important from year to year. For example, seedlings for planting in this State numbered only about 800,000 during the 1947-48 season. In the crop year 1948-49, there were 17,000,000 seedlings sold, and 10 years later (1958-59) the number sold totaled 130,000,000.

MAINE

Expanding market outlets (ME-B-1)

Potatoes.--The Maine Department of Agriculture continued and expanded its potato promotional efforts in support of the industry program which is under the general direction of the Maine Potato Commission. Marketing specialists visited 253 cities in 26 States and Washington, D.C., to explain the Maine quality program to brokers, wholesalers, retailers, and institutional users of potatoes, develop plans for promotional campaigns, and assist retailers in improving the merchandising of this commodity. The latter activity is exemplified by the work carried on with a retail grocery chain in South Carolina. Specialists evaluated the efficiency of the potato handling and merchandising methods, and presented the chain with a written report of their findings and recommendations. In another case, specialists met with produce managers and supervisors of a chain organization and helped them lay out a merchandising and promotion program for the season. Sharp increases in purchases of Maine potatoes resulted in both cases.

The intimate knowledge gained by marketing specialists of marketing conditions, the channels of distribution, and publicity media in the cities where the project work has been underway has been valuable to the potato industry and the Maine Potato Commission in improving shipper-buyer relationships, in suggesting ways of increasing consumer acceptance, in scheduling promotions, arranging tie-in advertising, in selecting advertising media, and in determining the advertising schedule. All advertising expenses are paid by the Maine Potato Commission.

While it is difficult to measure the exact value of a joint promotion and advertising campaign such as this in terms of additional volume of business, figures taken from Federal-State Market News reports indicate an increase of 47 percent in the number of carlots of Maine potatoes received at one major eastern market following a 9-week advertising program, 37 percent in another city, and 51 percent in a midwestern market.

In addition to the foregoing activities, the Maine department presented exhibits and put on demonstrations at a number of agricultural and trade shows and conventions at which representatives provided information on the varieties, qualities, grades, packages, and types of potatoes and potato products the Maine industry had to offer. Several new outlets for potato products have been secured through national food distribution firms by these efforts and by direct contacts with the firms. The cooking and use of potato products in menus were demonstrated to numerous other groups and agencies, such as State supervisors of the School Lunch Program, food editors, and service clubs.

The market service program for potatoes is the major factor in the coordinated Maine potato marketing program, resulting in Maine potatoes receiving a premium of 30 to 40 cents per hundredweight in many markets.

Poultry and eggs.--Marketing service work was continued with producers, receivers, wholesalers, retailers, and restaurant and hotel operators to keep them informed of the latest developments in candling, handling, packaging and merchandising eggs. A key feature of this phase of the project was the series of egg grading schools held to train people in proper methods of grading and handling. Demonstrations of egg grading and sizing, the qualities represented by official grades, and methods of caring for eggs were given to housewives and other users of eggs. Many of these demonstrations were held in retail stores in connection with egg promotions conducted by the Maine department in cooperation with retailers.

Several methods were again employed to promote increased poultry consumption, with particular emphasis on poultry packed and sold under the Maine Blue, White, and Red trademark. In a series of television programs a marketing specialist demonstrated methods of preparing and barbecuing chicken. Response to these programs was excellent as measured by the many requests received for booklets on barbecuing. Assistance was given many organizations and retail stores in arranging and conducting barbecues, and in connection with these events booklets on barbecuing methods and promotional material on Maine broilers were made available to participants and shoppers.

In a cooperative program with the Maine Department of Economic Development, demonstrations of barbecuing were conducted for operators and counselors for 80 summer camps. This program reached many nonresidents and is intended as a long-range program to build demand for Maine poultry in the New England and New York markets. The Maine department also assisted the Maine Poultry Improvement Association in staging the Maine Broiler Festival. This event, which was attended by about 5,000 persons, also was used as a means of demonstrating and promoting chicken barbecuing.

"Maine Barbecue," the widescreen theatrical short subject which the department produced and released to the New York and Boston area audiences a year ago is still being shown to large audiences. This film was designed to stimulate chicken barbecues in metropolitan areas where Maine has an important share of the broiler market. This film has been shown 7,613 times in 1,113 theaters to audiences totaling 1,608,000 people as of July 1, 1959. It has also had 102 free showings on television to an estimated 4,500,000 viewers. Currently it is being featured in Maine theaters and "drive-ins" as an inducement to our summer vacationists to purchase Maine chicken in their home State.

Assistance was provided the New England Crop Reporting Service in providing needed marketing information on the Maine poultry industry.

Red meats.--Marketing specialists participated in a series of schools, T.V., and radio programs through which proper selection and preparation of meat were demonstrated. This program reached an estimated 15,000 persons, and stimulated many requests for booklets on the subject.

Milk.--The Maine department continued its activities to encourage greater participation of schools and eligible summer camps in the National School Lunch and School Milk Programs. Reports compiled by the Maine Department of Education show an increase of about 5 percent in the use of milk in Maine schools last year compared to the preceding year. Ten additional nonprofit camps enrolled in the program last year, bringing the total to 56. Several camps reported an average daily consumption of about 5 pints per child contrasted with 1 half-pint per day prior to participation in the Special Milk Program.

In addition to the work with schools and camps, the Maine department cooperated with the Maine Dairy Council, Maine Milk Committee and other groups in the June Dairy Month promotion. Individual contacts were made by marketing specialists with some 150 milk dealers and several hundred restaurants and hotels in securing cooperation to promote milk and dairy products and in planning specific promotional activities. To demonstrate and explain the way in which the milk promotion program is conducted, the Maine department produced a news-type film in color and sound entitled "Make Mine Milk," and showed it to 25 groups of dairy industry members. The film also was used by the Extension Service in its meetings with producers and consumers.

Apples.--As one phase of a program to focus attention on apples early in the marketing season, special exhibits were displayed at the Maine Retail Grocers Convention, annual meeting of school lunch program directors, and other events over the State. During the season, marketing specialists prepared news releases pointing out the versatility of apples as an item in the menu and providing information about the supply and varieties available. This material was used extensively by the specialists in guest appearances on radio and T.V. programs to promote apple sales. A special promotion, "Maine Apples on Parade," was conducted with Maine retailers. Assistance was given retailers in building attractive apple displays and on other aspects of merchandising. Special promotional efforts were devoted to apple products, the manufacture of which is increasing in the State.

Other commodities.--Promotional programs similar to those described above were conducted for dry beans, maple syrup, blueberries, and cream style corn.

Improving marketing efficiency (ME-C-1)

Work was initiated during the year with a group of supermarkets in re-organizing present facilities, in designing new facilities, and promoting more efficient work methods in backroom produce operations. As a result of this assistance, the backroom operation in these stores is now more efficient in that there is a substantial saving in the labor required in receiving, trimming, packaging, and displaying produce. Also, the quality of produce being displayed has improved, with resulting improvement in sales. These improvements have been achieved at relatively little cost to management.

Improving grading and handling methods for grain and soybeans (MD-A-1)

Major attention was again given to the problem of excessive discrepancies between shipping point and terminal markets in various grade factors for grain and soybeans. A detailed follow-up study of handling procedures of soybeans between shipping point and terminal was made to try to uncover the reasons for the significant weight differences between the two points. The study proved that if all persons concerned follow proper procedures, the weight determination at terminal should be in line with such determination at shipping point. A copy of the report was sent to all dealers and forwarders.

Equally disturbing to country shippers are the differences between shipping point and terminal in the measurement of grade factors. In most cases, differences have not been large enough to change the grade but are large enough to subject the shipment to additional discounts. For example, under established trade practices for soybeans there is a discount of 2.5 cents per bushel for each 1/2 percent moisture above 14 percent. If the moisture at origin is 14.4 percent and the moisture at the terminal is 14.7, there is a 2.5 cents per bushel discount; if 15 percent, then the discount is 5 cents, resulting in a difference of \$50 to \$100 per car without a change in grade. Similar discounts exist for foreign material in soybeans and garlic in wheat. The department of markets made a detailed study of intermarket inspection reports analyzing all grade factors in an effort to seek a solution to the problem. Final conclusions, at this date, have not been determined.

Assistance was given to a number of individual dealers and groups on grain and soybean marketing problems. This included assistance in expanding facilities, installing cleaners, and checking efficiency of driers. Also, one group was assisted in determining whether or not a soybean processing plant should be constructed.

Other programs included assistance to producers in reducing foreign material in soybeans harvested and marketed and the demonstration of methods for calibrating moisture meters.

Preliminary work was begun in one county to demonstrate the possibilities of buying and selling grain on the basis of official grades.

Improving the marketing of fruits and vegetables (MD-B-1)

Fruits and berries.--A grading manual was prepared and disseminated to peach graders, growers, and marketing agencies to improve the accuracy of peach grading operations. This manual was used by growers in determining when peaches were ready for harvesting and by peach packers in checking their work. A companion manual on apple grades was prepared last year by the Maryland Department of Markets. Local apple processors were helped in preparing suitable purchase specifications for inclusion in their purchase contracts for raw stock. Processors are interested in a high rate of conversion of raw stock into finished products, and the specifications developed from them reflect variations in this factor more accurately than do the U.S. grades. Assistance was given apple

and peach growers in connection with problems of preparing and making shipments to foreign markets. Demonstrations were given growers of the maturity requirements and proper harvesting and packing practices for early apples for export.

Demonstrations were given of official strawberry grades and proper methods of sorting and packing to improve the appearance and market acceptability of the packed berries in connection with a strawberry auction. Following these demonstrations much improvement was observed in the quality of the berries and appearance of the packed product. This was reflected in a better demand and higher prices for the product.

Vegetables.--A survey of mechanical snap bean harvesting was made to evaluate quality and grading problems incident thereto, and to serve as a basis for developing recommendations for improvement in harvesting procedures and desirable changes in the U.S. Standards for Snap Beans for Processing. New proposed grades for mechanically harvested beans together with instructions regarding their application were presented to the industry for its tentative use. With some adjustments based on this experience the new standards were formally issued later in the season.

Demonstrations were given growers and shippers of potatoes and tomatoes of the maturity and quality required of these products for sale on Government orders and for export to Canadian markets. More specific and adequate specifications for Irish potato seed were developed in cooperation with the potato industry.

Improving methods of grading and marketing (livestock and wool) (MD-B-2)

Through this project, the department of markets, with the cooperation of the Extension Service, Experiment Station, livestock breed associations, individual farmers, marketing agencies, and others, has been able to offer assistance and actually take the leadership in working with all livestock farmers and in encouraging them to market collectively through organized sales and pools. These sales and pools have provided an excellent opportunity for producers to observe grading demonstrations. They also provide farmers the following advantages:

1. Another outlet for their feeder cattle, feeder pigs, slaughter lambs, and wool.
2. An opportunity to compare the quality of their annual crop of feeder calves, feeder pigs, slaughter lambs, and wool with animals and wool produced by other farmers.
3. Attract more buyers; consequently, they have more buying competition for the animals and wool.
4. An opportunity to sell their animals and wool by grade.
5. The opportunity for a farmer with a few head of livestock and a few pounds of wool to sell in a strongly competitive market.
6. Increase prices for their livestock and wool because in many instances the animals are sold direct to the feeder or packer and the wool is sold direct to the manufacturer.

During the past year, the following organized sales and pools were held:

<u>Type of sale</u>	<u>Number of sales</u>
Feeder calf and cattle	2
Feeder pigs	8
Slaughter lamb pools	4
Wool pools	2

In all of the sales, the prices were higher as compared to farm sales or when the animals and wool were consigned to marketing agencies.

Beef cattle.--The two sales of feeder calves and cattle can be summarized as follows:

<u>Number of cattle</u>	<u>Average weight per head</u>	<u>Total weight</u>	<u>Increased returns to farmers</u>
1,313	452	593,476	\$23,739.04
<u>759</u>	<u>534</u>	<u>405,306</u>	<u>16,212.24</u>
2,072	xxx	998,782	\$39,951.28

The \$23,739.04 and \$16,212.24 increased returns (Column 4 above) are based on the fact that, on the average, feeder cattle sold through the farmer organized sales brought 4 cents more per pound. Several farmers actually consigned some of their cattle to marketing agencies to be sold on the same day of the organized sales. In every instance, the organized sales brought 4 to 5 cents more per pound. In view of the statements made by many of the farmers and the actual experience of several farmers, it is assumed that 4 cents per pound is a conservative differential.

Swine.--The eight feeder pig sales held during the past year are summarized as follows:

<u>Number of Pigs</u>	<u>Average weight per head</u>	<u>Total weight</u>	<u>Increased returns to farmers</u>
986	54.0	53,244	\$ 3,727.08
679	64.0	43,456	3,041.92
528	47.5	25,080	1,755.60
1,063	58.0	61,654	4,315.78
606	58.0	35,148	2,460.36
281	81.0	22,761	1,593.27
217	42.0	9,114	637.98
<u>87</u>	<u>47.0</u>	<u>4,089</u>	<u>286.23</u>
4,447	xxxx	254,546	\$17,818.22

The increase in returns to farmers is based on the fact that feeder pigs sold through the organized sales during the past year brought an average of 7 cents more per pound than if sold at the farm or through other livestock marketing outlets.

Sheep (wool).--A wool pool was started in 1957 at the request of the sheep producers in the State. This system of marketing had for several years received favorable support by some sheep producers and was considered as a means of stabilizing the prices paid to farmers for their wool. Prior to 1957, approximately one-half of the wool produced in the State was sold to itinerant buyers or wool buyers who established assembly points in the producing areas. The wool pool held in 1959 attracted 350 consignors. This represented an increase of 86 consignors, or about 32 percent.

Farmers marketing their wool through the pool reported they received from 8 to 15 cents more per pound than they would have through other outlets. A total of 750 lambs were consigned to the lamb pools last year. Prices received from these pools demonstrated that lambs sold early in the marketing season brought substantially greater returns than lambs of the same grade sold later in the season.

Livestock conservation.--The Livestock Conservation Program was continued last year and consisted mainly of illustrated talks given at meetings throughout the State and the displaying of several exhibits on conservation at leading agricultural events. The illustrated talks and exhibits were supported by radio tapes prepared and sent to radio stations in Maryland and adjacent areas. Newspaper releases were also prepared and sent to weekly and daily newspapers in Maryland and adjacent areas.

Providing marketing assistance to fruit and vegetable processing plants (MD-C-1)

The department of markets arranged conferences with canners' representatives and weights and measures officials regarding the requirements of nearby States that the word "net" appear on the quantity declaration on all commodities in package form. This problem was presented to the Laws and Legislation Committee of the National Conference on Weights and Measures for its consideration. The Committee's recommendation, accepted and endorsed by the Conference, was that States should not require a supplemental statement in quantity declarations on packages. Although the labelling requirements have not been rescinded in the States involved, the concession to permit Maryland processors to use up existing inventories of labels will save them thousands of dollars.

Improving basic data and marketing information (MD-D-1)

Broilers.--At the request of the Delmarva Poultry Industries, Inc., the Delaware-Maryland industrywide association of processors, feed manufacturers, hatcherymen, growers, and others in related branches of the broiler industry, the Maryland Department of Markets, in cooperation with other departments of the University, and the University of Delaware, made a survey of the marketing problems of this industry which are limiting its competitive ability.

As a result of this survey, the broiler industry appointed committees which: (1) Prepared a case for reduced rail rates; (2) made a study of existing storage facilities, possible structures that could be modified for storage, and instituted a move toward more farm and plant storage; (3) studied causes of low dressing percentages; and (4) investigated more economical utilization of plant waste and byproducts. The survey also prompted the establishment of a research program with research agencies to investigate the economics of producing broilers to varying degrees of finish and of separating broilers by sex and marketing each sex at its optimum stage.

Following publication of these data, the broiler industry established a committee to study ways of improving plant efficiency and increasing dressing percentages. The plant survey showed that in an average size plant an increase in plant output of 5 pounds per man-hour would reduce processing costs by \$400 per day; also that by reason of comparatively low dressing percentages each plant included in the survey was losing an average of nearly \$1,000 per month. The department of markets is cooperating with this committee.

Tobacco.--Work was initiated to develop objective methods of estimating yields and production of tobacco. Estimates based on present methods are not considered to be sufficiently accurate. The first phase of the project, the development of the sample, has been completed.

MASSACHUSETTS

Improving milk quality (MASS-A-1)

Since the inception of this program last year many producers and distributors have been helped in determining the causes of off-flavors in milk and in correcting the conditions responsible for them. A number of flavor evaluation panels have been set up by the Massachusetts department and the Extension Service to help them with the work. Sampling and scoring for flavor are being conducted on a regular basis for many producers and milk plants. They are furnished reports of these tests and provided suggestions for overcoming the particular flavor defect found. Specialists gave direct assistance to producers and plants where problems of this kind persisted. The following examples illustrate how the program is conducted, the kinds of problems encountered, how they were solved, and the beneficial results:

A bulk tank producer was threatened with a loss of his market because of a persistent and very strong salty off-flavor of his milk. When the usual steps to correct a salty defect failed to effect any appreciable improvement, further investigation showed that a faulty milking machine pump was causing the cows to be only half milked, rapidly dropping in production after freshening, and producing milk with the very objectionable salty off-flavor. This situation was corrected and the producer is getting approximately double the amount of milk from roughly the same number of cows as the amount obtained during a comparable period before the cause of off-flavor was determined.

Another instance involved a producer who had lost his market because of a serious flavor defect in his milk. After the dairy had received several complaints from customers, the producer was informed that the plant would not take his milk until the off-flavor had been eliminated. The producer could not believe any defect was present but investigation showed that the off-flavor present in the milk was due to the strong odor of wet sawdust used for bedding the herd and which was customarily spread just prior to the night's milking. The producer lost half a tank of milk amounting to approximately 1,000 to 1,200 pounds, but after removing this milk and altering his procedure so that the sawdust was spread after milking, the plant restored him as a patron and he had no further difficulty with the quality of his milk.

Another case involving a producer-dealer concerned a fruity off-flavor of milk caused by the growth of psychrophilic bacteria. This situation had been called to the attention of the dealer by several customers who complained of an odd taste, particularly over week-ends. His operation involved the use of a refrigerated truck which was filled with cases of milk immediately after pasteurization and, after the plant cleanup was completed, driven to another location where the unit was plugged into the electrical outlet. The difficulty arose because of the extended delay in placing the milk in the truck under refrigeration caused by the time involved in processing an extra day's milk for the weekend. This was strictly a matter of poor handling and was easily corrected by maintaining proper temperature control of the milk at all times.

In another plant a chlorine defect was responsible for a loss of business. This flavor defect persisted for several months and cost the dairy 10 to 12 customers over this period of time. The off-flavor was caused by the use of chlorine powder in making the sanitizing solution in the bottle washer. The powder was dissolved in warm water which, when cooled, caused the powder to precipitate out of solution. On cleaning out the solution tank, chlorine powder was found in the tank to a depth of approximately two inches. This meant that a saturated solution was present in the tank at all times resulting in a final rinse of such strength that every bottle had an objectionable chlorine flavor.

Providing new basic data on vegetables (MASS-D-1)

Under this project needed local data on plantings, production, and marketings of vegetables are being provided the industry. Plans are to develop an informational service under which buyers will be provided with more detailed and specific data on the locations, quantities, qualities, varieties, and prices of vegetables.

Developing methods of certifying virus-free nursery stock (MICH-A-1)

This work was started in 1949 to aid the Michigan nursery industry in marketing nursery stock free from damaging virus diseases. Many virus infections seriously reduce the vigor, productivity, and life of the trees, and impair the quality and size of fruit produced. In addition to the benefits to the Michigan nursery industry, this program is of important economic significance to the many commercial orchardists in nearby States who rely on Michigan nurseries as a source of planting stock.

Progress has reached the point where disease-free propagating material for cherries is being made available to nurserymen from the cherry budwood block established in cooperation with Michigan State University. The department is assisting nurserymen in establishing new budwood blocks so that they will not be dependent on one central source should there be an outbreak of infection in this one source. Strawberry virus-free propagating material also is being made available to commercial plant producers.

Work continued on the development of disease-free sources of cherry rootstock. One problem in this connection has been to obtain adequate supplies of Mahaleb seed. Further explorations were made of methods and techniques for virus inactivation of cherry budwood. The use of heat treatments has not produced encouraging results. One procedure that is being tested is to produce terminal growth of trees under optimum conditions. There is a possibility of success from this procedure since under some conditions a tree will "outgrow" the virus and thus the terminal wood may remain virus-free for a time.

The study of comparative yields of virus-free and Necrotic Ring Spot infested trees is being continued. Severe weather conditions last year so reduced the crop that the comparative data are inconclusive. The search for a better indicator host for the Green Ring Mottle virus has not been successful. It appears that the Kwanzen flowering cherry is still the best available indicator host plant but propagation of this variety has been difficult with a consequent low bud supply. The same limitation applies to the Shiro-fugen flowering cherry.

Technique development and variety screening to produce virus-free sources of strawberry propagating material was continued in cooperation with Michigan State University and nurserymen. In accordance with recommendations of cooperating nurserymen, the number of varieties being increased under the program has been stabilized at 12. Release of these varieties to cooperators will be made next spring. An estimated 2,000,000 virus-free strawberry plants were released to Michigan growers last season. A change in certification procedure was made during the year. Previously, to be eligible for certification the stock could be 4 years from the foundation planting. Under the changed requirement, the stock cannot be more than 2 years from the foundation planting.

A study is underway to determine the need for blueberry scionwood blocks similar to the cherry and strawberry blocks. Increasing incidence of Shoestring virus and some cases of the Pemberton virus in Michigan blueberry plantations are the reasons for this activity.

Although there is no evidence that virus diseases in apple orchards and nurseries present a serious problem, the situation is being closely watched and a search is being made for suitable indicator plants. Virus diseases in pome fruits are quite serious in certain other countries, and serious trouble could develop in Michigan if virulent forms were introduced here.

In cooperation with Michigan State University, a manual on small fruit virus diseases was prepared and published.

Improving grading, handling and packing (MICH-A-2)

Last year, the emphasis under this project was placed on marketing improvements for four commodities--apples, cherries, potatoes, and peaches--having a farm value of about \$50,000,000. The same general approach for bringing about constructive changes in grading and marketing methods was followed for each commodity. Grading demonstrations, exhibits, and direct assistance methods were employed to encourage the use of official grades, and grading and handling procedures that would maintain quality and result in a more attractive product for the consumer. Evidence that the program is producing results is indicated by a sharp increase over the past few years in sales of Michigan potatoes in the Detroit market where previously the preference had shifted to potatoes from certain other States.

Special efforts were given to the problem of maintaining quality of apples stored in controlled-atmosphere storage. Faulty practices in storing these apples have resulted, in many instances, in poor keeping quality upon removal from storage and much retailer and consumer dissatisfaction. A survey made by the Michigan department brought out that two causes of this short shelf life were storage of overly mature apples, and excessive delays in preparing the fruit for shipment to market after the storages were open. This information, with recommendations for the corrective steps to be taken, was provided the storage operators. Assistance was given the apple industry in developing proposed legislation to identify and regulate the marketing of controlled-atmosphere apples.

Improving market news information (MICH-D-1)

The experimental work to develop a price-reporting program for poultry and eggs at interior markets was concluded during the year. The program is being continued with State funds. With termination of this phase of the project, work was started on the establishment of a similar price-reporting service for livestock. Price information and other marketing data are being assembled daily from 13 of the 52 livestock auctions in the State and released through a national wire service and over local radio and television stations.

Providing basic data and special marketing information (MICH-D-2)

Technological developments in production and changes in marketing structures and practices have given rise to the need and demand for more detailed and precise data on the prospective supply of the various agricultural commodities produced in Michigan. At present, work under this project is concentrated on providing better production and marketing data on three commodities--apples, cherries, and onions.

Apples.--A varietal breakdown of the August production estimate is one type of data provided under the project. The need for this information has increased with the expansion of controlled-atmosphere storage. There are four main varieties of apples grown in the State which are adapted to this type of storage, and it is important for growers to know by harvest time which of these are in heaviest supply and most in need of storage to extend the marketing season. Estimated average productions of a variety for each fruit district are now used as weights in computing the State total for that variety. Previously the production of all varieties in the districts had been used.

Cherries.--The evaluation of objective methods for estimating cherry production, started in 1958, was continued with the addition of 40 orchards to the sample of 25 originally selected, in the hope of advancing the date when objective estimates can be placed on an operational basis. Results so far are encouraging, and analysis of the data is underway to determine the number of orchards which would have to be sampled to give a probable error smaller than the actual error experienced in recent years based on regular mailed survey indications.

The importance of more accurate estimates of cherry production has been heightened by the creation of a growers' bargaining association to negotiate prices with processors.

Onions.--Objective methods of estimating onion production also are being evaluated under this project. The weekly releases on the progress of the Texas onion crop were continued to assist Michigan onion growers and shippers in regulating the flow of storage onions to market.

MINNESOTA

Developing methods of certifying virus-free nursery stock (MINN-A-1)

The goal of this project is to develop methods of certifying disease-free nursery stocks and otherwise to assist farmers and nurserymen in the purchase, sale, and distribution of such products. The specific problem from the onset was eliminating virus diseases from hardy Prunus in Minnesota. Actual certification procedures have been put into effect in eight of the largest nurseries in the State, and over 100,000 virus-disease-free trees were marketed last spring. New cooperating nurseries are being included in this program as fast as requirements for certification can be met.

To insure freedom from virus diseases, 3,800 propagation source trees, planted in mother blocks, were visually checked for easily recognizable symptoms, and of this number 1,900 were indexed to determine the presence of latent type viruses. Of these 1,900, 400 were new trees to be added to approved mother block plantings, 1,000 were re-checks, and 500 were promising new selections of hardy Prunus or breeding stock material.

Much effort was placed on finding the cause of a peculiar "yellow-red leaf condition" which causes losses ranging up to 30 percent. Transmission tests were begun to prove the existence of virus disease. Other pathological and

horticultural aspects of this problem are being checked. Considerably more work needs to be done to determine the cause and cure.

Final arrangements have been made with the University of Minnesota to assist the Minnesota department in establishing a strawberry certification program.

In addition to nurserymen, personnel of the Minnesota Agricultural Experiment Station and other State experiment stations and Canada have cooperated very closely with this project, giving it national and international recognition.

Improving the quality of farm products (MINN-A-2)

Eggs.--The Minnesota Certified Quality Egg Program which was initiated under this project in July 1958, has been placed on a permanent basis. Department marketing personnel assigned to this work continued to provide assistance on quality problems to producers and egg dealers who have qualified or wish to qualify under this program. A total of 127 producers, with flocks of nearly 400,000 birds, and 4 egg dealers are now involved in the program. Premiums paid egg producers under this program have ranged from 2 to 4 cents per dozen.

Other activities to improve egg quality in the State have included grading demonstrations and exhibits at various events, assistance to retailers in improving merchandising practices, and the holding of egg grading schools and institutes. Department personnel appeared on 28 of these egg institute programs, conducted in cooperation with the Extension Service, to explain the procedures necessary for producing and marketing eggs of high quality.

Dairy products.--The mobile laboratory was operated this past season in a 7-county area in western Minnesota. Assistance was given 78 dairy plants and other establishments manufacturing dairy products in evaluating product quality and detecting and eliminating sources of contamination. This technical service to dairy plants has resulted in the marketing of a higher quality product and increased returns to plant patrons.

Maple syrup.--Bacteriological surveys and chemical analyses were made in one area to help producers improve syrup quality.

Expanding market outlets for farm products (MINN-B-1)

Eggs.--Assistance was given producers and dealers operating under the Certified Egg Quality Program in contacting out-of-State buyers. These efforts have resulted in additional outlets for about 1,600 cases per week. About 25,000 copies of a pamphlet prepared by the department on egg quality, how to buy eggs, and egg uses in the menu were distributed to consumers through feed companies and egg dealers.

Apples.--The department cooperated with the Minnesota Fruit Growers Association in publishing and distributing to buyers an informational booklet on the quantity, quality, and varieties of Minnesota apples available. Marketing personnel also prepared and presented apple promotional exhibits at trade shows and other events, and participated in the annual La Crescent Apple Festival.

Dairy products.--Personnel of the department cooperated with the Minnesota Dairy Industry Committee in its promotional program to expand outlets for dairy products, and also worked with school officials in maintaining high participation in the Special School Milk Program. The Minnesota department and the Dairy Industry Committee combined their efforts to sponsor and maintain a display at the Upper Midwest Hospitality Trade Show attended by about 3,000 people from the hotel and restaurant trade. This display featured the many dairy products used in public food dispensers and by institutional organizations.

Potatoes.--The department assisted the potato industry in establishing a Seal of Quality Program for seed potatoes. A number of producers and packers are marketing their top quality seed under this program. This development is regarded as an important forward step in expanding outlets for Minnesota grown seed. Assistance also was given two potato-flaking plants in establishing outlets for their product.

Poultry.--In cooperation with the Minnesota Turkey Federation, a survey was conducted among consumers to determine the frequency in serving turkey, size of bird preferred, and the attitude toward the purchase of turkey quarters. The survey indicated a market potential for turkey quarters, and, on the basis of this, the Federation launched a sales program on this product. This program assisted in the sale of large birds and it will be repeated next year.

Honey.--The Minnesota department is providing three types of services to improve the marketing of honey: (1) Supplying more accurate and timely marketing information, (2) assisting producers and processors in improving the quality of the product, and (3) aiding the honey industry in promoting greater use of the product.

The marketing division was instrumental in developing and coordinating a regional (Minnesota, Wisconsin, Iowa, North Dakota, South Dakota, and Montana) report on the honey marketing situation. This report, which is issued periodically during the honey marketing season, provides producers and processors with information on carryover stocks, honey flow, and price levels.

Through cooperative efforts of the marketing division and the Minnesota Beekeepers Association, compulsory grading of honey was established in Minnesota last year. This has resulted in an improved product being offered at retail and better consumer demand.

The marketing division conducted an organized program of bringing honey to the attention of consumers. Honey displays were developed and shown at various conventions, fairs, and trade shows. By actual count, nearly 300,000 people viewed the exhibit at the State Fair. Demonstrations of the use of honey in connection with this exhibit involved over 50 different recipes. Various honey items were made up for sale to visitors to introduce them to honey flavor. Another effective honey exhibit was displayed at the annual meeting of the American Home Economists Convention, attended by about 3,000 teachers and professional home economists.

Other commodities.--Promotional and quality improvement work also was conducted on lamb, forest products, maple syrup, furs, and fishery products.

Providing new basic data and marketing information (MINN-D-1)

The work was directed toward the development of new or additional marketing information on crops, feeder pigs, milk, sheep and lambs shorn and death losses, wool production, grain in storage, and prices of agricultural products. To accomplish this, special surveys of producers were made to obtain detailed information on the use of bulk milk tanks on farms; purchase of feeder pigs, including source, weight, price, and death losses; and grain in storage according to type of storage and location. Information on these subjects was widely disseminated by the use of mimeographed periodic reports and printed publications. This information has been in great demand by persons concerned with the marketing of farm products.

MISSISSIPPI

Improving milk quality and milk handling methods (MISS-A-1)

Work was intensified on the problems associated with the conversion rapidly taking place in Mississippi to the farm bulk tank and transport tanker system of holding and transporting milk. Assistance was given over 700 dairymen in methods of installing, calibrating, and sanitizing farm bulk tanks. Training schools were set up to instruct transport drivers in the use of calibration charts and proper milk sampling procedures.

The use of the bulk tank for holding milk on the farm has increased the importance of quality control procedures. Contaminated milk from a single cow can cause the loss of an entire tank of milk. A number of producers experienced this situation until project workers investigated and determined the sources of contamination. In one case it was necessary to take samples from each cow in the herd and to have the samples analyzed at the dairy laboratory maintained in cooperation with Mississippi State University. Two cows in the herd were found to be infected with a "cold-loving" type of bacteria, which continued to develop under the low temperatures maintained in the bulk tank. The milk sanitarian for the plant to which this producer was selling had tried to solve this problem for several months without success. After the infected cows were removed from the herd the dairy was able to sell all of its milk on a Grade A market, instead of dumping it or using it as hog feed.

Improving egg quality and egg handling methods (MISS-A-2)

The Mississippi department continued work on a statewide basis with producers, packers, wholesalers, and retailers to encourage the use of practices which would maintain quality and increase consumer acceptance of eggs from local sources. Quality evaluations were made at the retail store level, and assistance was given the retailer in correcting conditions in the store affecting quality. For example, if the eggs had been on display for an excessive length of time with consequent quality deterioration, he was encouraged to work out a different delivery schedule with his suppliers. If the quality deterioration had resulted from the lack of or inadequate refrigeration, the importance of temperatures on egg quality was demonstrated. Where the quality tests revealed that the producer or packer was the responsible party, assistance was given them

in determining and correcting the conditions responsible for quality losses. Over 500 commercial egg producers were provided assistance of this kind during the year. Special help was given 34 hatching-egg producers in one area in finding outlets for their eggs, following the collapse of a hatching-egg program.

Further encouragement to the adoption of proper quality control procedures and the use of official poultry and egg grades was provided by demonstrations and exhibits at fairs and other events over the State.

Activities under this program have increased the value of Mississippi eggs through improved quality and orderly marketing by at least 10 percent, or about \$1,700,000.

Improving quality and expanding outlets for fruits and vegetables (MISS-B-1)

Progress is being made under this project in improving the quality, packaging, handling, and market acceptance of Mississippi fruits and vegetables. Increasingly, growers, handlers, and shippers are becoming quality conscious and are utilizing official grades more frequently as a basis of trading. The work was conducted through field demonstrations, visits to individual farms and packing houses, and meetings. By these means, producers and shippers were shown how to harvest commodities at the proper stage of maturity, how to perform the harvesting operations and subsequent handling with a minimum of damage to the product, and how to grade and pack in accordance with official grades. In connection with these service activities, marketing specialists provided producers and shippers with information on market conditions and alternative market outlets. The benefits of this program last year in one small area of the State were estimated to be about \$65,000.

Providing new basic data and marketing information (MISS-D-1)

Work continued during the year on collecting monthly data on Grade A dairies operating in the State. Again on January 1, 1959, a complete count, by counties, was made of all Grade A dairies operating in the State. In accordance with an agreement with the Department of Agricultural Economics, Mississippi State University, county estimates on the number of Grade A dairies and Grade A milk production for a 12-month period were supplied that department for use in the preparation of a research bulletin on fluid milk production and marketing. Also, work was continued on a series of county estimates on an annual basis for five major field crops, five categories of livestock, and four vegetable crops.

Under the expanded vegetable project reports were issued which provided marketing specialists with more timely reports on progress of vegetables and expected dates and volume of movement by counties of major producing areas in advance of actual harvest.

Three publications were in the process of preparation during the year. A statistical bulletin will be ready for distribution in the near future. A special bulletin on the dairy industry in Mississippi was in the process of completion. This report contains highlights of the Grade A dairy survey started in January 1957, and continued as a monthly survey. A third release showing results of the survey of farm grain storage facilities was in preparation.

During the year, work was started on developing a series of annual county estimates on inventory numbers of chickens on farms and a series of county estimates on hay production in Mississippi.

Requests which come to the department and comments from recipients of published data indicate that the statistical facts on agriculture made available under this project have been of invaluable service to the State. This information has played a major role in developing sound programs and guidelines for future progress in the State.

MISSOURI

Improving quality and expanding market outlets (MO-B-1)

Dairy products.--The marketing division continued its assistance to the American Dairy Association of Missouri in planning and conducting various events to promote greater use of dairy products. Assistance also was given dairies and retailers in improving merchandising methods and in developing more effective means of acquainting consumers with the versatility of dairy products in menu planning. Radio and television were used extensively in this phase of the program. An exhibit maintained by the division at the Mid-West Restaurant Association meeting was considered to be very effective in stimulating restaurant operators in expanding the use of dairy products in their menu planning. At this exhibit, demonstrations were given and information provided on how dairy products should be used in restaurant cooking.

Fruits and vegetables.--Activities to expand outlets for apples were continued in cooperation with the Missouri State Horticultural Society. Information on the availability of Missouri apples by locations and varieties was provided by personal contact, brochures, and weekly newsletters to some 400 brokers, receivers, truckers, and large retailers in Missouri and a surrounding 10-State area. Buyers have come to depend upon this service in locating supplies of Missouri apples. In addition to this information service, the marketing division provided assistance to the Horticultural Society in preparing advertising copy for trade papers and in designing point-of-sale material for retailer use. Assistance also was given retailers in developing attractive mass displays. Other activities to expand outlets included appearances on TV programs to present information on apple varieties and their best uses, and the distributing of films and visual aids on the healthful aspects of apples in the diet. To help insure the success of these promotional efforts, the marketing division maintained a constant program of helping growers do a better job of harvesting, grading, and packing fruit.

In cooperation with three producer marketing associations in southeast Missouri, an informational brochure on watermelons was prepared and disseminated to some 850 buyers. This brochure provided data on the estimated acreage, varieties, marketing seasons, major loading points, and persons to contact in making purchases for each watermelon growing county in the area.

Livestock.--Work was started at various livestock auctions in the State to observe the classes and qualities of animals being sold preparatory to initiating a program to improve the marketing of livestock through these outlets.

This activity was conducted in cooperation with the Missouri Agricultural Experiment Station. Specialists of the marketing division continued the program of demonstrating livestock grades at shows and sales over the State.

MONTANA

Quality improvement of dairy products and eggs (MONT-A-1)

The project to improve quality and marketing practices for dairy products and eggs produced in Montana, and thereby increase prices received by producers, was continued in cooperation with Montana State College. Bacteriological and organoleptic tests were made of samples of dairy products obtained from dairy plants and retail stores. Results of these quality determinations, together with comparisons for past periods, and recommendations were furnished the plants and stores. A total of 3,653 quality tests of the various dairy products were made during the reporting period.

Steady improvement in the quality of dairy products has resulted from this program. The percentage of butter scoring 91 or better increased from about 11 percent in 1955 to 31 percent in 1959; ice cream scoring 91 or better increased from 56 to 92; and cottage cheese scoring 91 or better increased from 71 to 86. Two quality evaluation clinics were held during the year to train dairy plant employees and management in proper quality control procedures. Increased consumer preference for quality dairy products has resulted in increased sales and in higher prices received by milk and cream producers.

Under the egg quality improvement program marketing specialists checked refrigeration facilities and handling practices of approximately 80 percent of the wholesale and retail egg outlets in Montana. Observations of merchandising practices and quality determinations of eggs handled under different temperature conditions were made, and the results of these findings, together with recommendations, were presented to wholesalers and retailers. Producers and other suppliers of these outlets also were furnished this information.

The second phase of the egg marketing program involves the production and marketing of top quality eggs under a Montana Seal of Quality. Only producers who meet necessary requirements in the production, cooling, packing, and marketing of eggs can use the "Gold Seal" identification on their egg cartons. Currently there are 52 producers participating in this program, an increase of 64 percent in the past year. Producers of "Gold Seal" eggs are realizing a premium of from 3 to 10 cents per dozen.

Providing basic data (MONT-D-1)

The compilation and publication of data on wheat production by protein percentage groups for 43 principal wheat counties in Montana was continued. The reports issued last year showed the quantity of wheat produced in the State by protein groups for the years 1951 and 1958. These data are helpful to the grain trade in locating wheat of the desired protein content and assist growers in making marketing decisions.

Reports were published containing data on wheat and barley varieties, including seeded acreage, acres harvested, yield per acre, and production for the major producing counties. These reports were instigated and financed largely by the Montana Wheat Quality Council and the Malting Barley Improvement Association, and have been useful to these organizations and to the grain trade in encouraging the production and marketing of improved varieties of wheat and barley.

The reporting of cattle movement data from inspection certificates of the Montana Livestock Commission was started in 1957. Data released for 1956 and 1957 contained the numbers inspected by three inspection categories, by months, and by States of destination. Last year the first of a series of monthly reports was issued, and the data segregated into sex and age groups, interstate and intrastate marketings, movement to feed lots and slaughter, and other details relating to rail and truck transportation, class of buyer, etc. These monthly reports are expected to provide a rather complete current picture of cattle marketings in Montana and should be useful to producers, dealers, and processors.

NEBRASKA

Providing additional basic data and marketing information (livestock) (NEBR-D-1)

Quarterly (March and September) surveys and reports on the Nebraska pig crop and hog inventories were prepared and released as a part of a coordinated 10-State program. In addition, a special report was released on the breeds of hogs on Nebraska farms, which provided for the first time basic data on the meat-type hog output of the State. These reports were distributed to about 5,000 producers and others interested in the hog supply picture and have tended to bring about desirable adjustments in hog numbers.

The June and December livestock questionnaires were redesigned and expanded to provide the additional detail needed for the quarterly reporting program. The surveys also were designed for "peg strip" summarization which eliminated time consuming hand tabulation and resulting higher costs.

NEW JERSEY

Expanding outlets for poultry, eggs, fruits and vegetables (NJ-B-1)

Poultry and eggs.--The New Jersey Department of Agriculture, in cooperation with the New Jersey Poultry Products Council, continued the program to expand outlets for poultry and eggs. The activities engaged in included 4,133 farm visits on quality survey work; assistance to over 50 egg distributors licensed under the New Jersey State Seal of Quality program on quality problems; calls on over 2,000 retail outlets to provide point-of-sale material and assistance in handling and displaying poultry and eggs; arrangements with 35 dairies to distribute 200,000 milk bottle hangers designed to increase the consumption of

eggs (this promotional material was purchased with New Jersey Poultry Council funds); and assistance on promotional activities with restaurants, hotels, and institutions to expand consumption of poultry and eggs.

Additional activities included a retail merchandising survey to determine the most effective use of the State Seal of Quality promotional material for eggs, developing egg promotion and display material, developing the exhibit used at five county fairs and at the annual convention of the New Jersey Retail Food Merchant Association, sponsoring cooking demonstrations on the preparation of egg dishes, and conferring with chainstore executives and food editors to acquaint them with and enlist their support in the poultry and egg promotion program. Assistance also was given in planning March Egg Month and other egg promotion campaigns. These promotional activities were reported to have been an important factor in marketing 533,000 dozen of eggs weekly identified with the New Jersey State Seal of Quality as compared to 250,000 dozen weekly sales during the previous year.

The division of markets encouraged the marketing of consumer packaged roasting caponettes and fresh frozen native turkeys under the New Jersey State Seal of Quality. The turkeys and caponettes identified with the State Seal of Quality were reported to have been sold at satisfactory prices.

Fruits and vegetables.--After the initial success of marketing New Jersey potatoes under the State Seal of Quality in 1958, it was decided to continue this program. During the year emphasis was placed on informing potato producers and shippers of the need for improved practices in grading, handling, packaging, and quality identification. Chainstore and other buyers were visited to acquaint them with the Seal of Quality program, and to obtain their cooperation in marketing New Jersey potatoes. During an 8-week period when potatoes were first packaged under the Seal over 5,000,000 pounds in 10-pound bags and over 900,000 pounds in 50-pound bags were sold in New Jersey stores.

The New Jersey Division of Markets in cooperation with the College of Agriculture, New Jersey Farm Bureau, and roadside market operators continued the program to expand outlets for farm commodities through roadside markets by direct sales to consumers. The principal products sold at these markets were fresh fruits, vegetables, poultry, eggs, dairy products, honey, syrup, preserves, jellies, pickles, relishes, ornamental nursery stock, and cut flowers. In order for a market operator to become a member of the New Jersey Certified Farm Markets, Inc., it is necessary to meet requirements with respect to cleanliness of facilities, advertising of products, grading, packaging, displaying and pricing of products, proper refrigeration, and courtesy to patrons. Marketing specialists showed the operators of the 35 Certified Markets how to grade, package, display, advertise, and price products in accordance with the requirements of the organization. Assistance was provided in developing satisfactory packages suitable to roadside marketing, and the division of markets developed a pamphlet on New Jersey Certified Farmers Markets, which included the "code of ethics" for Certified Farm roadside markets and a map for use by consumers in locating the roadside market operators.

The operators participating in the Certified Farm Market program indicated that their volume of sales increased substantially over last year's sales, and

one roadside market operator reported an increase of 250 percent. The gross sales of the 35 roadside markets in the program averaged about \$30,000 for the 1959 marketing season.

Assistance was provided producers, shippers, receivers, wholesalers, and retailers on asparagus marketing problems. During the asparagus marketing season (April, May, and June 1959) a marketing specialist made over 300 calls on shippers and receivers in New Jersey, Philadelphia, and New York, and on wholesalers in three cities in Connecticut to discuss packing methods, distributing problems, and the preparation and display of asparagus in retail stores.

The division of markets provided a limited amount of assistance to Peach Industry Committee's general promotion program during the 1959 marketing season. It is felt that a more complete and adequate program including more emphasis on quality control is needed in order to promote effective marketing of New Jersey peaches.

A sweetpotato marketing program, in cooperation with the New Jersey Sweet Potato Industry Association, was initiated July 1, 1959. The objective of this program is to improve the quality, to encourage the best possible marketing practices, and to promote market outlets.

Providing basic data and new marketing information (NJ-D-1)

The Crop Reporting Service continued its program of providing new and timely basic data on New Jersey agricultural crops. During the past year the following reports were issued: New Jersey Agricultural Statistics, a new annual report which includes estimates of production, sales and prices for crops, livestock, and poultry by counties for 1957 and 1958; New Jersey Apple and Peach Tree Survey, which summarizes State totals of apple and peach trees by age and variety; and New Jersey Meat and Chicken Survey, which includes information on breed, sex, weight, age, market class, method of sale, and price. Publication of the weekly New Jersey Truck Crop News report was continued during the growing and harvesting season. This report includes weekly weather data and timely information on crop development and expected harvest dates for vegetables and fruit crops.

A mimeographed report, based on an after-harvest survey of blueberries, was released which is used by the industry as the principal source of data on acreage, production, and utilization of New Jersey blueberries. Special monthly reports were issued on vegetables, potatoes, and fruits which provided detailed information for competing areas. Data from an enumerative survey of all commercial flower and plant growers in New Jersey have been analyzed and a report will be released at an early date. This report contains information on the principal kinds of indoor and outdoor cut flowers, flowering and foliage plants, and bulbs.

An enumeration survey was completed on nursery stock and the data are being summarized for publication. The basic information obtained in this study will be used by producers and nursery organizations in planning their marketing programs.

NEW MEXICO

Maintaining the quality of farm products (eggs, fruits and vegetables) (NM-A-1)

Assistance was given producers, wholesalers and retailers in improving practices and facilities for handling, refrigerating, and displaying eggs. The advantages of using official grades in buying and selling eggs also were demonstrated.

An example of the type of service and benefits from the work is as follows: During the year one chain group experienced breakage in consumer packs of eggs that ran as high as 30 percent. Marketing personnel began working on the problem at both the retail level and at the packing plant. Handling procedures were checked from the plant to the refrigerator case where the consumers selected the eggs. Cases of eggs were marked and checked after each handling. The conclusions reached were that there were too many different handlings involved. The cases of eggs were handled seven times, between the grading plant and the retail outlet. By working with store personnel, a pallet system of handling was installed and the number of handlings were cut to three. The high breakage ceased almost immediately.

In one area of the State, division of markets personnel were requested to assist one large producer with insufficient market outlets for his eggs. Specialists assisted him in locating a buyer and working out a pricing and delivery plan. The local chain buyer wanted the product graded and packaged and to be of high quality. The producer agreed to this arrangement, and specialists helped train the people to grade and package the eggs.

By following closely the development of fruit and vegetable crops and marketing conditions, marketing specialists of the New Mexico department were in a position to advise producers regarding the most opportune time to harvest and market their crops. Field demonstrations of official grading were conducted to help train harvesting and packing crews in proper methods. Continued efforts were made to bring about greater standardization of quality in fruit packed and shipped by New Mexico growers. Help was given in the development of storage facilities for onions.

Expanding market outlets for fruits, vegetables, poultry and eggs (NM-B-1)

Marketing specialists assisted egg producers in securing new outlets with several large chains which formerly had not been purchasing New Mexico eggs. Before these arrangements could be made it was necessary for the producers, with the help of the specialists, to select and install modern grading and packaging equipment. Producers cooperating in this program are receiving premiums of as much as 6 cents per dozen. The problem of disposing of cull hens from commercial egg laying flocks has been alleviated through arrangements which the department has developed for producers with local poultry dressing plants and retail outlets.

The department again prepared and distributed a brochure to inform brokers, distributors, and chain store buyers of the location of New Mexico fruit and vegetable areas, and the varieties, quality, and quantities available in each.

Advice given onion growers by the department regarding the periods of the season for most advantageous marketing helped them move their crops at generally satisfactory season average price despite a substantially larger onion supply.

NEW YORK

Providing marketing information and expanding market outlets for New York agricultural products (NY-B-1)

Poultry and eggs.--The New York department continued the program to expand outlets for eggs through the use of the Empire State Trademark. On this phase of the program, marketing specialists held 28 producer meetings, many of which were held in cooperation with the Extension Service, throughout the important poultry producing areas of the State. At these meetings, marketing specialists pointed out grade and quality requirements of the program, necessary plant facilities, and proposed promotion emphasis. As a result of these meetings, 12 producers have requested plant facility surveys to determine their eligibility to participate in the program.

Department specialists prepared leaflets on carton inserts; brochures about egg quality, grades, sizes, uses, methods of preparation; and information about the Empire State Trademark for distribution to producers, grading plants, wholesalers, and retailers. In addition the Empire State Trademark program for eggs was presented before consumer groups and over a series of public service television programs.

Two carton manufacturers are cooperating with the Department in developing a standard carton for all eggs packed under the Empire State Trademark. Other activities conducted in connection with this program for eggs included egg merchandising displays developed for use in retail stores. One such display placed in a medium-size retail store increased the sales of Empire State Trademark eggs from 7 to 31 cases per week, an increase better than fourfold. The Trademark eggs sold at a 6-cent premium over two other brands at the time the merchandising display was in use in the store.

On-the-farm assistance was given producers on proper cleaning and sizing procedures for eggs, and in some of these operations work is planned on developing standards, regulations, and operating procedures for on-the-farm egg freezing operations.

In an effort to increase quality and improve merchandising methods as a partial solution to the low per capita egg consumption dilemma, department specialists made a thorough study of egg merchandising methods. The findings of this study indicated that quality and sales of eggs were hampered by lack of adequate location and display facilities, and increased competition with specialty items.

Arrangements were made for a food editors' tour of poultry farms, egg assembly plants, and hatcheries, and information on poultry breeding and feeding practices to obtain eggs of high quality was made available to the editors.

As a direct result of this tour, eggs were publicized in at least 18 feature food articles, 4 radio food shows, and in syndicated food articles. Newspapers carrying these articles have a combined circulation of over 17 million readers.

The department this year enlarged upon its egg information program at the New York State Fair with two exhibits aimed at capturing the interest of both producers and consumers. More than 100,000 information brochures and pamphlets were distributed to approximately 250,000 fairgoers who visited the exhibits. A brochure featuring information on purchasing, preparation, and storing of eggs in the home was prepared. This brochure, "Quality N.Y.S. Eggs, Their Care and Preparation," has been used extensively on radio and television and was a valuable aid during restaurant and retail in-store promotions. More than 70,000 of the pamphlets have been prepared and distributed to date.

In the spring of 1959, New York State undertook one of the most energetic promotion campaigns ever dedicated to a single agricultural commodity. Acting as coordinator for this program, the department joined with the combined forces of industry, State agencies, and other interested organizations to halt falling prices to poultrymen by striving to increase consumer consumption of eggs. The program's first goal was to provide immediate relief from the worst egg market depression on record, and, second, set the stage for a long-range program to prevent a similar recurrence.

Many complimentary reports on the accomplishment of this program have been received from various producers, industry, food, consumer, and communications groups. The department has been widely commended for its quick and positive action and for success in bringing together a united and powerful team of industry, government, retailers, hotels, institutions, and other groups to meet this critical situation.

During the emergency egg promotion campaign marketing specialists worked with industry personnel on several in-store display promotions. One new store in which a promotion display was set up sold 87 cases of eggs in one day and since the promotion has maintained average sales of 200 cases per week, and reports from other retailers cite excellent results obtained from the program.

More than 250,000 recipes and point-of-sale posters, supplied by the poultry industry, and 75,000 copies of the department's "Quality Egg Bulletins" were distributed through retail outlets to consumers. More than 1,000 information packets were mailed radio, newspaper, and TV personnel, as well as home demonstration agents, county agents, 4-H workers and other persons connected with food information and advertising services. The packets included 20-, 30-, and 60-second radio and TV scripts, egg recipes and menus, and information on egg cookery, and egg quality.

Approximately 175 restaurants were supplied with industry donated table mats and PENB table tents, and many restaurants featured egg dishes on their menus. Outstanding support for the emergency program was received from Kiwanis Clubs and other civic organizations in the State.

The two-year experimental period was completed on the market news report for poultry and eggs, which contains information in market conditions, on-the-farm prices, and supply and demand situations. The report has been a factor

in stabilizing the prices established by the Mercantile Exchange as well as bringing about more orderly marketing of eggs in New York State, and is now being carried on as a regular activity of the New York State's market news section.

Potatoes.--The New York department assisted the Long Island potato industry in moving a seasonal surplus of potatoes too large for the storage facilities on Long Island to handle. Retailers, at the Commissioner's request, aggressively pushed Long Island potatoes during the surplus period. Marketing specialists worked with produce managers of chain stores in constructing displays and in placing point-of-sale material supplied by the industry for the promotion program. Approximately 200 stores were contacted and more than 500 point-of-sale kits, provided by the industry, were distributed. The department specialists observed the quality of Long Island potatoes received in the markets as well as prices and other market information which were reported back to the industry.

The Long Island potato promotion program resulted in the growers being able to market the part of the crop that needed to be marketed prior to the freeze deadline. At the request of the Long Island potato industry the department assisted in a potato promotion which tied in with the opening of the Atlanta State Farmers Market in Atlanta, Georgia on January 22, 1959. This promotion included a 40-truck caravan of Empire State Brand Potatoes, and New York State apples, onions, and potatoes were featured in a 20-x 10-foot display at the newly constructed market. Every receiver on the market ordered at least one load of the potatoes. At the same time the promotion activities were being conducted at the Atlanta Market, department specialists were working in the major retail food outlets in Atlanta constructing displays and distributing point-of-sale material for potatoes.

As a part of the Empire State Trademark program, the standards were again revised for potatoes. The new grade includes all the requirements for U.S. Fancy except for closer sizing and maturity tolerance in keeping with the growing conditions of the northeast.

A new type paper package was designed with a "window" in the back of the bag. This bag with the "window" back design has been accepted for trademark potatoes. It has the advantage of reducing the labor time spent in rotating displays and in helping to reduce greening of potatoes in retail store displays.

The potato promotion program also included two major Empire State Trademark exhibits at the State Fair in which the cost of exhibit space, potatoes, bags, and personnel to staff the exhibits was paid by industry.

The Empire State Trademark program for potatoes gained momentum during the past year. For example, in upstate New York a considerable increase in interest in this program was shown by growers, packers, retailers, and consumers. For example, in Syracuse four major chain store operations accepted the program and prominently featured trademark potatoes in their stores. On Long Island, several additional packers entered the program and were successful in developing outlets in the New York metropolitan area.

The department, in cooperation with the New York State Seed Potato Growers, prepared a revised seed potato brochure, also collaborated with industry in revising grades and standards for seed potatoes designed to meet current marketing needs.

Apples.--The department assisted Cornell University in conducting a consumer preference survey for applesauce. At the request of the apple industry a successful program was developed to assist in promoting and merchandising the apple crop which had been stored in controlled-atmosphere storage and was experiencing a slow retail movement as the result of a crop 50 percent larger than normal and a large holdover of cold storage apples in other States. A local chain organization which operates 23 stores in New York State reported that apple sales had increased by 60 percent during the period of the promotional campaign. The department continued its weekly apple report containing f.o.b. farm and country-point storage data.

Vegetables.--Work was continued on the marketing information report on sweet corn grown in the Upper and Mid-Hudson Valley and Rochester area. Information relating to quality, prices, method of packing and cooling, supplies, movements, and demand at both production areas were assembled daily and disseminated. The department also obtained data for the onion marketing report on quality, grade, size, type of packaging, cooling procedure, and prices from growers and shippers in the major onion production areas in New York State each Tuesday and Thursday during the onion marketing season. This report provides the only complete statewide marketing information available to producers, shippers, and buyers of onions.

A daily marketing summer crop information report was issued by the department's Rochester office providing data on weather, supplies, packages, quality, demand, and other marketing information on iceberg lettuce, cucumbers, celery, strawberries, and other crops shipped out of the upstate New York production areas. A weekly report for western and central New York State was issued which showed harvest dates, weather, condition of crops, supply, demand, packages, storage, and market quotations for cabbage, broccoli, cauliflower, lettuce, onions, and strawberries.

Cheese.--The department cooperated again with the New York State Cheese Manufacturing Association in preparing a marketing information brochure and in developing a consumer information and promotion exhibit at the New York State Fair.

Maple syrup.--Information was assembled on weather, supply, and marketing conditions in New York State and major competing areas for weekly distribution during the maple syrup marketing season to producers, buyers, and other interested persons. This report is the only comprehensive and reliable source of information on New York State maple syrup, and it is used by producers to obtain the best possible prices and to do an effective marketing job, and it also assists buyers in locating supplies.

Christmas trees.--More than 650 producers cooperated in making information available weekly for the Christmas Tree Market Report. This report, which is released during the Christmas tree marketing season, provides information on prices by varieties, quality factors, demand, supply, movement to market, and

and other aspects of marketing. Releases were also distributed to inform consumers about the availability of quality Christmas trees grown in New York State.

The department cooperated with the New York State Christmas Tree Association and the College of Forestry in a program to encourage the marketing of Christmas trees on a quality basis. Several meetings were held with producers to explain the importance of quality marketing in order to expand outlets and obtain satisfactory prices. Christmas tree grading demonstrations were held at several regional meetings and at Christmas Tree Growers' Association annual convention.

Livestock.--Monthly figures were obtained from livestock auctions in the State for a quarterly report showing the volume of sales by grade, classes, and types of animals.

Seed.--In cooperation with the New York Certified Seed Growers, Inc., a four-color informational and promotional brochure was prepared for a birdsfoot trefoil seed which is planted for pasture and as a hay crop. Fifty thousand copies of the brochure were distributed to wholesalers and retailers of seeds and to dairy and livestock producers during the past year. It is reported that the promotional assistance provided was a factor in expanding sales of birdsfoot trefoil seed.

Cut flowers.--The department, at the request of the Western New York Flower Growers Association, prepared an informational report which was issued on Monday and Thursday during the cut flower marketing season to a mailing list of about 240 persons in the Buffalo area. This report contained information on prices, supply and demand, and other pertinent marketing information to keep producers and buyers informed with respect to the marketing situation for cut flowers in Western New York State.

Improving marketing efficiency (NY-C-1)

Department specialists again assisted on the program to improve the efficiency of marketing organizations. Three retail operational efficiency projects were completed and work was initiated in conjunction with the Transportation and Facilities Research Division, Agricultural Marketing Service, USDA, on developing efficiency standards for warehouse operations. After a careful study was made of backroom layouts, facilities, and operations, detailed recommendations and improvements needed for a more efficient operation were presented to management. In one demonstration store an immediate saving of over 12 percent in labor resulted from adoption of recommendations on store operation and efficiency and a later report indicates that this store has doubled the volume of produce sold with no increase in the labor force.

In another retail operation changes were made in the produce backroom to increase the store's operational efficiency. The improvement in efficiency in this store led to the adoption of similar changes in several other stores affiliated with this chainstore organization.

Retailers were also provided assistance in developing merchandising displays for eggs, cheese, potatoes, fruits, vegetables, and other agricultural products.

The Division of Markets, in cooperation with the Cornell University Department of Agricultural Economics, worked on the development of an experimental display rack, called an "apple tree," which was found to be useful in "special" merchandising situations but not practical for widespread use.

Department specialists developed a low cost apple packing and grading table for use in on-the-farm marketing operations. This table was installed at one farm with the result that the improved operation was able to grade and pack the equivalent of 300 boxes daily in four-pound film-type consumer containers with a labor force of two men and four women as compared with an operation prior to the installation of the packing table which required a man and six women to grade and pack daily about 150 boxes, jumble-packed in conventional slatted wood containers. In addition to improving the packing efficiency, the packing table provided a practical method of marketing apples in film-type bags and made it possible for the producer to retain direct outlets to retail stores.

The department also cooperated with the Transportation and Facilities Research Division, Agricultural Marketing Service, on an experimental apple packing line study. The purpose of this project was to determine how apple packing methods and equipment developed for other varieties can be adapted to the McIntosh variety.

At the request of a large chainstore organization, department specialists made an evaluation survey to determine the causes of excessive bruising of apples which had resulted in consumers' complaints. It was found that the excessive damage from bruising was not occurring in the warehouse, but in the backroom of the retail store and on the display counter. Suggestions made by marketing specialists to improve handling methods were adopted and resulted in substantially reducing apple bruising damage in the chainstores participating in the program.

The work on standardizing and developing more attractive packages for fruits and vegetables was continued. To further this effort package information was obtained from 82 head produce buyers of chainstores throughout the country on types of packages and reasons why recommended package types proved more satisfactory as shipping containers for cabbage, cauliflower, cucumbers, sweet corn, and other agricultural crops. A report on the findings of this study was prepared for Genesee Valley Regional Market Authority.

Providing new basic data (NY-D-1)

Fruit.--A survey of commercial orchards in New York outside the Lake Ontario Counties was completed during the year. This survey provides county data on numbers of apple, peach, pear, sweet cherry, sour cherry, plum, and prune trees by varieties and age groups. Extensive use is made of these data by growers, processors, and cooperatives in evaluating production potentials of tree fruits for the next few years and as a guide to future plantings. The information on tree numbers is basic to the development of future fruit forecasts,

and this information provides a benchmark needed in making estimates by the Crop Reporting Service.

A survey of all processors was made after harvest obtaining the 1958 tonnage of grapes by varieties, producing areas, and utilization, and the results distributed to processors, cooperatives, and growers to be used as a guide to supplies and on production and marketing trends by varieties and areas.

The program on developing objective methods of forecasting apple production was continued. The work involves developing methods of estimating a mean number of apples per tree at a preharvest date, predicting droppage to harvest, predicting harvest size of apples from preharvest size measurements, and converting total apples of various size to bushels. Statistical techniques were used to assure proportional representation of various varieties, age groups, areas, and size units, sample trees were selected from which a subsample of immature fruit was counted and size measured to determine a most efficient sample size. By tagging fruits, it was possible to make repeat counts and size measurements during the growing season, providing a basis for future use in predicting droppage and growth patterns from early season observations. A quantity of apples were sorted by size at harvest time to ascertain the number of fruit of various sizes in a bushel which is needed in converting the results of the objective information to the final production unit.

The objective of this work is to improve the techniques in order to obtain more precise preharvest forecasts which can lead to greater price stability for the part of the crop sold to processors as well as to minimize early season price variations on fresh supplies which will be beneficial to growers, processors, wholesalers, retailers, and consumers.

Potatoes.--At the request of the industry a survey on potato plantings was made to obtain an accurate planted acreage estimate of Long Island potatoes. This information is needed to provide the industry with reliable production estimates for use in the development of a sound marketing program.

The survey indicated that Long Island potato growers had planted 46,500 acres in 1959 which was 7 percent lower than for the previous year. The findings of the survey were released early in the 1959-60 marketing season to shippers, dealers, and buyers to assist them in their marketing plans.

Dry beans.--The first dry bean stock report was released in September which reported the carryover of beans at the end of the 1958 marketing season. The objective of this informational report is to promote the orderly marketing of Red Kidney beans at the best possible prices to producers.

Vegetables.--Data were again obtained on vegetable acreage in the muckland areas of Orange, Elba, Oswego, Madison, and Wayne Counties. This information is widely used in the industry as a guide to potential supplies from muckland producing areas.

A directory of New York State plants processing fruits and vegetables was prepared in cooperation with the Division of Food Control. The directory lists the name and location of all processing plants in the State receiving or purchasing fruits and vegetables for processing from New York growers.

An index of all crop yields was computed and published. This information is useful in evaluating the trends in crop yields.

Dairy.--Marketing data were again compiled on milk supplies and utilization in 12 major upstate marketing areas not covered by separate marketing orders to provide information on changes in marketing trends among local markets. These data included milk receipts from dealers own herds, from other plants, and from producers, and supplement regular available dairy statistics for New York on milk supplies and utilizations.

NORTH CAROLINA

Testing cotton fibers (NC-B-1)

Under this project samples of cotton obtained each week from gins in 27 different sections of the cotton-growing area were tested for maturity, uniformity of fiber length, tensile strength, and diameter variability and the test results released to cotton merchants, mills, and shippers. Specialists also provided assistance to cotton mills and merchants in establishing their own cotton testing laboratories. Work conducted under this project, which was initiated in 1950, has been a factor in improving quality and expediting the marketing of North Carolina cotton.

This project was discontinued on a matching fund basis on June 30, 1959, in recognition of the fact that the primary objectives of the program had been accomplished. However, the cotton fiber testing work was considered so valuable to the industry that the North Carolina General Assembly appropriated the funds necessary to continue the program as a State activity.

Improving marketing practices and expanding outlets (NC-B-2)

Fruits and vegetables.--In cooperation with North Carolina State College, assistance was given producers and shippers in selecting varieties having the best market potential; determining the most advantageous marketing period or periods; adopting proper harvesting, grading, and packing procedures; selecting and installing grading and packing equipment; and finding outlets.

The requirements for successful marketing of vegetable crops were presented and discussed at 63 meetings attended by nearly 1,000 producers. In addition, direct assistance on particular marketing problems was given nearly 400 producers in 37 counties.

Cooperative efforts of the department and the North Carolina Potato Association in developing a program on the orderly marketing of early varieties of Irish potatoes were given credit for keeping the demand and supply situation in line with utilization and in returning to producers in 13 eastern North Carolina counties an additional income of about \$100,000 on the 200,000 cwt. of early potatoes marketed.

Producers in one county were assisted in setting up and equipping onion and tomato grading and marketing facilities and a vegetable marketing cooperative

In other counties over 2,000 producers were assisted in adopting proper harvesting, grading, packing methods, and quality control procedures for vegetables.

Tobacco.--Work was continued under this project on informing growers prior to planting time about the tobacco marketing situation as it relates to surplus stocks, total stocks on hand, domestic and export demands, and other developments affecting the tobacco industry; on familiarizing growers with grade standards; and assisting growers with respect to proper methods of sorting and packing tobacco to obtain maximum returns.

At the request of county agents, vocational agricultural teachers, and farm organizations, 116 demonstrational meetings were held in the flue and burley tobacco areas to show growers a simple method of farm sorting tobacco into standard grades. Proper lighting equipment for sorting tobacco was demonstrated, and growers were instructed on proper methods and facilities for conditioning tobacco prior to sorting, and on proper assembly and packing of tobacco for market. A total of 3,225 tobacco growers attended these meetings. By following recommended practices, many of these growers were reported to have increased returns from their tobacco by as much as 1 cent per pound.

Dairy.--The dairy marketing specialist conducted 225 meetings on the School Lunch and Special Milk Programs in 86 different schools which were attended by over 30,000 students and 1,000 teachers. The main purpose of this promotion program is to encourage young people to consume more milk. It is reported that students consumed 129,755,000 half pints of milk, an increase of 8 percent over the previous year.

Other activities were obtaining favorable publicity for the dairy industry through newspapers, and radio and television programs, assisting in June Dairy month promotions, and the preparation and dissemination of information to promote the use of milk and other dairy products. Fluid milk sales for the entire State during the first five months of 1959 were up 6 percent over the same period last year.

Livestock and wool.--The department placed emphasis on the program to promote the establishment of quality feeder pig sales throughout the State. Five feeder pig sales were held at which 20,000 pigs were sold to North Carolina and out-of-State buyers. It is reported that farmers received prices of from \$1-\$2 more for pigs sold at these special sales than were paid for feeder pigs sold at regular auction sales. The main objectives of the feeder pig sales are to provide commercial feeders with the opportunity to buy quality pigs in large numbers and to enable feeder pig producers to obtain top market prices.

During the fall of 1958, 11,017 feeder calves were marketed through 12 sales. In addition, assistance was given one auction in conducting monthly special fat cattle and stocker sales at which over 1,500 head of cattle were sold. Prices at these special sales exceeded those for the same weight and grade through the regular outlets. At other special cattle sales, 2,890 head of fat cattle, stockers, and feeders were marketed at prices above those received by producers for the same grades at regularly scheduled auction sales.

Specialists assisted in conducting 27 lamb pools at which 10,600 lambs were sold, and in organizing two wool pools through which over 270,000 pounds of wool were marketed. By marketing through these wool pools, producers realized the price advantage of selling on the basis of quality, and were able to offer buyers large lots of uniform grade.

Poultry and eggs.--Assistance was provided farmers, processors, feed dealers, and hatcherymen on marketing problems. For example, processors were assisted in preparing their plants for the mandatory inspection of poultry. On this phase of the work, 82 visits were made to poultry plants and 20 detailed floor plans were drawn up to improve plant facilities and equipment layouts.

Specialists held 15 egg quality schools in 14 counties attended by over 4,000 producers, processors, vocational agricultural teachers, and egg handlers, and also participated in 45 egg marketing meetings and in 47 demonstrational meetings on egg quality. Sixty-four egg producers in 26 counties were assisted on problems relating to egg handling, washing, candling, and farm storage.

Specialists worked with supermarkets and other retail grocery stores to encourage them to keep eggs under proper refrigeration. Conferences were held with store managers and supervisors to point out the best possible handling practices to maintain the quality of eggs in retail stores. Marketing information on eggs was presented on public service time over 3 of the State's largest television stations and 1 radio station in Raleigh.

Broiler producers in Alexander and Catawba Counties were assisted in determining and correcting the causes of poor quality in broilers marketed. Processors were reluctant to purchase broilers from this area.

Improving efficiency of cotton gins and cornmeal mills (NC-C-1)

During the reporting year, 600 visits were made to individual gins, 60 county group meetings were attended, and appearances were made on 3 radio and 2 television programs which stressed how to preserve and improve the spinning qualities of cotton. The objective of this program is to obtain the maximum preservation of fiber quality of cotton by providing assistance to cotton gin operators in adjusting ginning equipment, in installing lint cleaners, and on such problems as the effects of excessive temperature in cotton drying to prevent damage to fiber during the ginning process.

Marketing specialists assisted in the selection and planning of approximately \$300,000 worth of new gin machinery--mostly drying and cleaning elements. Work under this project has been reflected in the reduction of "rough prep" to less than one percent, which has resulted in eliminating substantial losses to producers in the market value of their cotton.

Assistance was given various marketing firms on problems relating to plant and facility design, selection of equipment, and improvement of handling methods. The objective of this work is to assist in the development of efficient operations as facilities are expanded to handle increasing volume. The emphasis on this program was placed on assisting corn millers in the design and construction of proper storage facilities, and on the aeration, preservation of milling stocks, and in the marketing of special corn product mixes.

Improving facilities and methods for handling grain (NC-C-2)

The department directed the activities under this project toward providing adequate grain storage facilities; merchandising grain on a grade and quality basis; and on storing, handling, treating, cleaning, and merchandising high quality seed.

Assistance was provided grain elevator operators in developing plans for the layout, kinds of machinery to install, and kinds of construction that meet North Carolina conditions. Help was given 20 firms on problems relating to location and type of structure; and in providing handling, drying, and aeration facilities. Considerable emphasis was placed on training employees of grain elevators in the use of the most efficient operating techniques. Through personal observation at the facilities and conferences with management and individual employees, department specialists were able to point out numerous practices that were reducing operating efficiency.

During the past year work conducted under this program was instrumental in bringing about the following improvements: (1) Establishment of about 2 million bushels of additional grain storage space, (2) the addition of grain dryers at 12 grain elevators, (3) a substantial increase in the number of firms buying and selling grain on a quality basis, (4) construction of 110,000 bushels of storage capacity at Morehead City and plans for the construction of an additional 250,000 bushels, and (5) the addition of approximately 1,000,000 bushels of "on-the-farm" storage with handling, drying, and aeration facilities.

This program resulted last year in estimated increased returns to farmers of 5 to 10 cents per bushel on all cash grain marketed. North Carolina produces about 36,000,000 bushels of grain annually for the cash grain market.

Under the seed marketing service program, 74 seedsmen were contacted and 18 additional surveys of seed processing facilities were completed during the reporting period. This assistance included demonstrations on the proper adjustment and operation of seed cleaners and other equipment; selection of screen sizes and types; explanation of State seed laws; and recommendations on ways to prevent mixing of seed, and on the installation of machinery and holding bins. The initiation of this program makes it possible to eliminate an estimated \$1,000,000 in losses that producers of grain and other crops are experiencing each year as a result of planting poor quality seed.

Providing new basic data (NC-D-1)

Apple and peach tree data, which indicate the distribution of trees by age and by variety, were collected and summarized. This information is being prepared for publication.

Information obtained as part of the State farm census survey on the distribution of broiler producers by size of operation was summarized and the findings will be published during the 1960 fiscal year.

Material on State and county tobacco statistics has been summarized and publication of a report is planned at an early date.

NORTH DAKOTA

Improving and maintaining quality of dairy products (ND-A-1)

The program to maintain and improve the quality of dairy products was expanded to include assistance to dairy farmers in the adoption of proper methods for installation and operation of over 200 farm bulk milk tanks and to retailers in improving handling and display methods for dairy products. In view of the rapid increase in the use of farm bulk milk tanks, a series of meetings was held with farmers planning such installation at which department representatives discussed the construction of milk houses and the facilities and equipment needed to insure high quality milk.

Approximately 3,000 samples of raw and pasteurized milk and cream were analyzed for quality in the dairy laboratory. These tests showed a six percent increase in Grade A samples, with a corresponding decrease in Grade B and Grade C. At the same time milk samples were collected at retail stores for the laboratory analysis, temperature checks were made of the refrigerated display cases in the stores. When the temperatures were found too high for good quality maintenance, the retailer was notified. Processors were also urged not to overstock the stores where there was a slow turnover of milk.

Work with farmers, cream stations, and processing plants on the quality of separated cream was continued. Processing plants were visited regularly by a specialist who made recommendations for improvements in the operation of the plants. The service work on quality of separated cream is of vital importance as about 90 percent of the butter produced in North Dakota is exported to large urban markets.

Grain sanitation (ND-A-2)

In cooperation with the Clean Grain Committee, composed of representatives from railroads, Extension Service, State health department, and public service, the clean grain program was developed four years ago to maintain the quality of cereal grains marketed. Because the majority of contamination occurs in storage, and approximately 80 percent of the grain in North Dakota is stored on farms, major emphasis has been placed on the prevention of contamination in farm storages.

Demonstrations of the use of rodenticides, and rodent and bird proofing were made on a countywide basis. The rodent baiting program was carried on simultaneously with the demonstrations. Other methods to prevent contamination of cereal grains were assistance to individual farmers in rodent control; demonstrations to 4-H clubs, homemakers' clubs, and farmer groups; and assistance to grain dealers and associations.

During the reporting period all counties in North Dakota were contacted at least once in regard to sponsoring a grain sanitation program. Within 30 counties participating in the program, 196 farm demonstrations were held with a total of 2,537 farmers in attendance. In addition, several radio and television programs on grain sanitation were carried over local stations. The fact that only 9 cars of North Dakota wheat out of 78,082 carlot equivalents sold

from farms were seized by Food and Drug inspectors during the reporting period indicates that the program was effective.

OHIO

Providing new basic information (OHIO-D-2)

Hay.--The experimental market news project for hay, which was initiated in 1958, was discontinued in June 1959.

Pig crop report.--The Ohio quarterly reports on sow farrowings and hog numbers, coordinated with reports from 9 other corn belt States, were mailed to 7,500 producers and other interested persons. These reports provided producers with an inventory every three months. State estimates were prepared and released for sow farrowings by months and by quarters and for farmers' intentions to farrow during the following 3-and 6-month periods. This information has been of tremendous value to farmers in adjusting their hog marketings to market demands.

Fruit survey.--At the request of the Ohio Apple Institute, Extension Service, Experiment Station, and marketing agencies, work was initiated on a fruit tree and grapevine count by age groups and varieties. Questionnaires have been mailed to all the fruit growers in the State, and results of the survey will be published and released before the end of the fiscal year.

OKLAHOMA

Quality improvement (OKLA-A-1)

Dairy products.--The dairy division of the department continued its program of assisting cream producers, buyers, haulers, and processing plants with problems affecting the quality of milk and cream. Throughout the year quality evaluation tests were conducted at cream buying stations and follow-up visits made to producers which these tests revealed were having quality problems. The factors resulting in quality deterioration on these farms were found and corrected. As a result of these farm visits processing plants using manufacturing milk reported that the milk received at the plants had a lower acidity, lower temperature, and less sediment.

As a result of these activities 90 percent of the butter manufactured by one large plant was acceptable to the trade as 90 Score, and producers in the area covered by the program received more than \$120,000 additional income for their milk and cream.

Eggs.--Work was continued in assisting egg producers and handlers on the proper method of candling, grading, sizing, storing and marketing eggs. As a result of this egg program producers were able to supply packers with high quality eggs and to compete successfully with other areas for markets within the State.

Providing new basic data (OKLA-D-1)

This project was discontinued and the results of the survey published in a report released in June. This report contains information on source of feeder animals, finished grade of feeder animals at market time, and the type of market used--such as central markets, local auction markets, and direct sales to packers.

OREGON

Maintaining the quality of stored filberts (ORE-A-1)

Packers and shellers were assisted in determining storage procedures necessary to maintain top quality of both unshelled and shelled filberts during storage.

Tests were conducted in five warehouses in the Willamette Valley to demonstrate that the storage conditions found to be suitable under a laboratory environment if transferred to warehouse storage will yield filbert nuts of good quality for a period of a year or more.

Beginning about January 1, 1959, filberts were placed in storage, one lot at 35°F. and the others at temperatures 50-70°F. These temperatures are practiced in common storage warehouses with relative humidities varying with atmospheric conditions and ranging generally from 55-65 percent. All the nuts, except for one lot stored unprotected in a tote box, were packaged in 100-pound capacity burlap bags. The filberts were protected against moisture absorption or loss from the surrounding atmosphere by sealing them inside 4-ply 50-pound capacity paper bags having an inner lamination of polyethylene. Apparently this effectively prevented any gains in moisture levels when the humidity of the surrounding air would have made this possible. One lot stored in a tote box lined with and sealed in plastic also showed effective protection.

While these recent tests have run less than a year, none of the nuts, controls or otherwise, have shown any marked deterioration. Those protected against losses or gains in moisture are in excellent condition.

The findings obtained this year corroborate results from those of the last two years, namely, that nuts protected against high moisture levels of 8 percent and over maintain excellent eating qualities for at least one year at common storage temperatures, and when refrigerated to 35°F. or lower will do so for periods in excess of a year. Present indications are that the protected inshell nuts will show good quality characteristics for one year.

Improving quality and marketing practices (potatoes) (ORE-A-2)

Work was continued on assisting potato handlers in improving storage and handling practices and in adopting practical methods of predetermining the cooking quality of potatoes to improve their marketability.

The following lines of investigation were conducted during the past year: (1) Tests were made to determine the specific gravity of the 1958 late crop of commercially produced Russet Burbank potatoes and results revealed specific gravities ranging from 1.065 to 1.115, with an average of 1.086; (2) information was obtained from restaurants, hospitals, and other institutions on methods of preparation commonly used, varieties of potatoes purchased, and performance of potatoes for various uses in different specific gravity classes; (3) additional information was obtained on mealiness and sloughing of potatoes as affected by specific gravity, growing area, and storage time; and (4) information was obtained on the quality of french fried potatoes as affected by specific gravity and cooking procedure. Results under this project indicate that storage time caused no significant change in the characteristics of mealiness but improved the characteristic of sloughing during boiling. Specific gravity had a pronounced effect on both mealiness and sloughing; with high specific gravity potatoes being most mealy, and low specific gravity potatoes showing least sloughing when boiled.

A panel of 140 Oregon homemakers cooperated in testing the cooking quality of Russet Burbank variety potatoes of high and low specific gravity. The findings indicated that the panel members liked the high specific gravity potatoes for baking and mashing, and the low specific gravity potatoes for boiling and casseroles.

As specific gravity has been found to be correlated with cooking quality of potatoes, it is possible to improve consumer satisfaction by sorting and marketing potatoes according to specific gravity classes. The adoption of the practice of classifying potatoes on the basis of specific gravity offers a potential for expanding market outlets for potatoes.

Improving the quality and handling of seed (ORE-A-3)

The work on improving the quality of the seed of Alta fescue, Chewings fescue, common rye grass, crimson clover, Highland bent grass, and Sudangrass was continued.

The objectives of this program are as follows: (1) To obtain basic information as to the change in moisture content of six major seed crops during storage in western Oregon under various types of warehouse construction; (2) to determine the effect of moisture content on the viability of the six major seed crops; (3) to determine the maximum safe storage period for normally handled seed lots in this particular area, and (4) to observe the seed quality change of these stored lots under different simulated shipping conditions.

During the reporting period the change of quality in 46 lots of six major seed crops stored under commercial conditions in western Oregon were observed by marketing specialists. It was found that high temperatures and humidity caused losses in viability of seed, especially Chewings fescue, Alta fescue, and Sudangrass. Crimson clover and Highland bentgrass showed some decrease in quality, and no change was indicated in the germination in common ryegrass for a period of 32 months.

The effect of shipping conditions on seed quality was examined by subjecting 18 lots of the six major seed crops to various combinations of temperature and humidity for 10 weeks. The results indicated that different types of warehouse construction did not cause any apparent variation in seed moisture.

Other important findings that will facilitate the marketing of the Oregon seed crop are: (1) Under present handling and storage conditions, seed should not be shipped to warm areas during the winter months without drying; (2) Chewings and Alta fescues, and Sudangrass should not be stored in western Oregon longer than two seasons; (3) stored seed could be shipped to areas other than tropical without deterioration in the spring, and (4) seed packaged in moisture-proof bags would retain its viability under tropical conditions for a period of 11 weeks if the original seed moisture content was not high.

Developing virus-free certification programs for fruit, tree nut, and vine nursery stock (ORE-A-4)

The objective of this project, which is conducted under the joint sponsorship of the Oregon Department of Agriculture and the Oregon Agricultural Experiment Station, is to develop methods and procedures for certification of virus-free nursery stock. The work started the previous season was continued and expanded.

The facilities and procedures for establishing virus-free scion orchards for Oregon nurserymen have now been developed to a usable state for cherry trees. Consequently, most of the cherry tree stock now being produced by Oregon nurseries are as free from virus as feasible under existing conditions. New problems and new hazards continue to develop, requiring adjustments of the program.

Prunes, plums, peaches, and apricots were included in the indexing procedures for the first time. Many of the varieties being used by nurserymen were found to be infected with virus. Many of these have or will be replaced as soon as a virus-free source is available. The work on prune and plum varieties will be continued until a virus-free source of all varieties is found and established in scion orchards.

The importance to nurserymen and to orchardists of using virus-free stock has become well established. Not only does the difference in bud stand and subsequent growth of trees become apparent in the nursery row, but orchardists are realizing more vigorous trees, earlier fruiting, improved quality, and more tons of fruit per acre.

The work on more rapid and better methods for virus indexing has produced promising results. By bench grafting and double working seedling apples a common virus in apple can be detected in the greenhouse in 40 days. By testing many cherry varieties some foliage indicators have been found that will greatly reduce the time and effort in indexing for the K and S little cherry virus. Many virus indicator plants for pear viruses have been tested, and a search for virus-free trees will be made.

Improving filbert production estimates (ORE-D-1)

The purpose of this program is to develop objective procedures of sampling to improve the accuracy of production estimates and provide preharvest indications by establishing indexes for the prediction of size, composition, grades, and quality of the Oregon filbert crop.

In carrying out this program, a probability sample of 350 clusters of 3 trees per cluster was drawn from the filbert growing area in Oregon. Only 300 clusters are used in the ratio forecast with 50 clusters being replaced each year. The counts of nuts, defects, and nut and cluster weights were taken in July to provide data for a ratio forecast of the fall harvest. The August 1958 forecast was for 7,622 tons and was an actual deviation of 1.08 percent from the actual 1958 filbert crop which was 7,490 tons. It was the first year that the adjustment for weight has not been largely counterbalanced by the adjustment for defects and will yield considerable information on the relative importance of these factors in the forecast.

Following the work of the past several years, a sizing ring was developed to obtain information on the distribution of nut sizes in July. These data will enable comparisons for size grades to be made in future years.

All the data from the "twig length" study was obtained and evaluated. This analysis included the relationship between fruiting twigs, number of female flower clusters, percentage of nuts set, number of nuts per cluster, and number of nuts set per twig. The findings were confirmed on quality factors studied in the second year of this work. The primary differences between the 1958 and the previous crop year were quantity rather than quality. The data indicated that the reduction in crop and quality factors was due primarily to the excessive number of short twigs produced. The findings of this study indicate that the longer twigs produce the major portion of the crop and most of the high quality nuts. For example, twigs $6\frac{1}{2}$ to $9\frac{1}{2}$ inches long produced on the average 5 times as many nuts as twigs $3\frac{1}{2}$ to $6\frac{1}{2}$ inches long.

Providing marketing data on farm products (ORE-D-2)

Work was continued under this project to determine sources and methods of obtaining and reporting truck movement of grain in the Pacific Northwest. Procedures have been worked out for obtaining summaries of truck unloads of certain grains in the Portland area which originated outside the Pacific Northwest wheat area (Oregon, Washington, northern Idaho). Monthly summaries have been prepared for the crop years (July through June) 1956, 1957, and 1958, showing State of origin, subclasses of wheat, and quantities of wheat, barley, rye, corn, and sorghum grains unloaded.

The following table shows the bushels of wheat and other grains included in this summary.

Table 1.--Truck unloads of grain from outside Pacific Northwest, Portland,
1956-58

Type of grain	Crop years (July - June incl.)		
	1956	1957	1958
	(1,000 bushels)		
Wheat:			
White wheat.....	2,720	4,189	4,659
Red wheat.....	679	1,415	1,712
Mixed and other wheat.....	52	54	40
Total.....	3,451	5,658	6,411
Barley.....	8	247	815
Oats.....	27	1	15
Rye.....	--	2	2
Corn.....	--	39	16
Sorghums.....	1	27	3
Total.....	36	316	851

Procedures have also been worked out to obtain data on the origin of truck shipments at Vancouver, Longview, Tacoma, and Seattle.

In addition to the work on truck imports, quarterly questionnaires were mailed in August 1959 to flour mills to determine the quantity of wheat, by class, used in milling flour; quantities and type of flour milled; and the domestic and foreign destination of flour shipments by type of flour.

PENNSYLVANIA

Expanding outlets for farm products (PA-B-1)

Promotional activities for agricultural products were coordinated with the Food Marketing Advisory Council, a group representing agricultural, food processing, transportation, and distributing agencies. Planned commodity promotion programs were reported in the monthly publication issued by the Council.

The Pennsylvania department continued activities to expand the certified egg program initiated in 1957. Following marketing testing of the plan in several Pennsylvania markets, efforts were centered on encouraging producer and handler organizations to participate in the voluntary program and to acquaint consumers with the availability of quality-controlled eggs produced in Pennsylvania. An exhibit depicting the operation of the program and demonstrating the factors of egg quality was shown at important fairs and conventions held in the State. Individual meetings were held throughout the year with egg marketing agencies to explain the program and to assist them in meeting its requirements. At the present time 25 packers with a monthly volume exceeding 2 million dozen are cooperating in the program.

Assistance was again provided peach, apple, and cherry producers in the planning and conducting of promotional programs. In cooperation with the fruit and vegetable industry, a comprehensive promotional program was carried on to assist the new Food Center in Philadelphia in expanding outlets for Pennsylvania products. Two issues of the FMAC Promotional Bulletin were devoted to the new center. About 23,500 copies of special maps showing access routes and store locations were distributed to producers, shippers, and truckers. Pennsylvania daily newspapers and fruit and vegetable marketing publications were furnished pictures, stories, and copies of the maps. Television programs and speeches were included in the promotional effort.

Livestock.--Work with the livestock industry to expand outlets for its products consisted largely of consultation, planning, and pilot tests in the areas of wool grading, calf grading, pen-lot selling, and market information. At the request of the Pennsylvania Sheep and Wool Growers, a study was made of promotional objectives and methods with the result that a continuing promotional program will begin later in the year.

Nursery industry.--The Pennsylvania Nurserymen's Association was provided information upon which to base plans for a forthcoming market expansion and promotion program.

Maple products.--A special weather forecasting service, in cooperation with the U.S. Weather Bureau, was initiated to assist Pennsylvania maple syrup producers in harvesting operations.

Improvements in market organization and facilities (PA-C-1)

The principal attention of this project was devoted to the orderly transition of the fresh fruit and vegetable wholesaling industry from the Dock Street area to the new Food Distribution Center in South Philadelphia. Prior to the opening of the produce section, special studies were made of refrigeration and materials handling equipment for the general information of prospective tenants. Assistance was also given to the management of the Food Center in planning the dedication program, including the preparation of special display materials, and television programs to inform farmers and farm organizations about the food center. Detailed time studies of handling methods at two Dock Street establishments were equated to standard handling data and compared with actual observations in the new Food Center. These data indicated that considerable savings were possible through improved handling methods. Labor and equipment costs of one representative dealer on the old market was 90 cents per ton compared with 31 cents per ton at the new center. Studies in two stores in the new market point to potential savings on produce handling costs of from 40 to 66 percent with proper handling methods, equipment, and proper supervision of labor.

A display and demonstration of handling equipment was arranged and conducted for prospective tenants. Some of the other services provided in connection with the new Food Center were the preparation of store layouts to show dealers how pallet equipment would fit into their operations, conducting tours through the market, providing consulting service to dealers on equipment, distributing marketing research reports on handling methods,

and conducting a survey to determine the use which buyers made of the market as a prelude to suggesting proposed operational changes which would add to the usefulness and efficiency of the market.

Much of the experience gained in the work in the Philadelphia Food Center could be applied to similar problems in other communities and to the general subject of materials handling at shipping point and assembly point, as well as at the receiving wholesale area.

Providing basic data for agricultural products (PA-D-1)

The pilot study on milk production and marketing practices which covered 3 counties in 1958 was expanded in 1959 to include 4 additional counties. Monthly questionnaires were mailed to commercial dairymen with herds of 10 or more milk cows. The survey will be expanded to include all 67 counties and monthly results of the surveys will be issued. The objectives of this project are to provide the Pennsylvania dairy industry with basic data and marketing information needed in developing an effective milk marketing program and in establishing equitable producer and consumer prices for milk. All milk prices are regulated in the State and any needed changes must be supported by economic data submitted at public hearings.

Christmas trees.--The initial inventory survey on tree population by varieties and age groups completed in 1957 was supplemented by surveys conducted during May and January 1958-59 to bring the information up to date. Price surveys among the approximately 2,000 commercial growers in the State were again conducted in 1958 and 1959 and monthly releases issued. The information developed under this project has stimulated the State Growers Association to organize a steering committee for development of a plan of orderly production and marketing.

PUERTO RICO

Development of quality standards for processed products (PR-A-1)

The Puerto Rico Department of Agriculture and Commerce, in cooperation with the Processed Foods Standardization and Inspection Branch, Fruit and Vegetable Division, Agricultural Marketing Service, completed work under this project on the development of grade standards for canned gandures, canned guava nectar, and brined citron.

SOUTH CAROLINA

Providing basic data and other marketing information (SC-D-1)

The Crop Reporting Service continued and expanded its program of providing new and timely basic data on South Carolina agricultural crops. During the past year, the following types of reports were issued: (1) A monthly bulletin bringing together in one publication a variety of current crop, livestock, poultry, and related data; (2) separate commodity bulletins, showing historic

and current estimates by counties for corn, wheat, tobacco, hay, barley, oats, vegetables, and peaches, prepared and released as supplements to previous commodity bulletins on current estimates on cotton, soybeans, peanuts, live-stock, including all cattle, milk cows, milk, hogs, all chickens, layers, and eggs; (3) special releases on farm employment, farm wage rates, commercial broiler production; and quarterly dairy reports; (4) current reports on hybrid corn seed uses, milk cow ration and value; special pecan report; calf, lamb crops, chickens raised, wool production; Lespedeza seed crop forecasts; acreage and production of fall vegetables, and monthly commercial livestock slaughter reports; and (5) three county agricultural bulletins (Fairfield, Oconee, and Greenville).

A grapevine and production survey was initiated. A peach tree survey was completed to provide current data on the number of peach trees by ages and varieties.

SOUTH DAKOTA

Providing marketing information and new basic data (SD-D-1)

County bulletins.--The South Dakota Crop and Livestock Reporting Service prepared and published county bulletins for 10 counties. These reports, containing comprehensive agricultural data for each county, provide farmers and other interested persons with information that is valuable in planning agricultural programs on a county level.

Quarterly pig report.--The program of quarterly (March and September) pig crop estimates has made it possible to forecast more accurately production and supply of hogs. This information was requested and is being used by livestock producers, distributors, and meatpacking industries.

County estimates.--Data on egg and milk production and income from marketings have proved very helpful to the dairy and poultry industries in determining the marketing territory and the potential for setting up facilities for marketing these commodities in a particular county.

Method of marketing livestock.--Data on the methods of marketing livestock in South Dakota were published for the first time in "South Dakota Agriculture - 1958." Since South Dakota is a supplier of feeder cattle and a large volume of the cattle are shipped out of State for feeding, income could be increased by feeding many of these cattle in South Dakota. In the development or expansion of the livestock marketing industry, this information was also needed on the various channels to which livestock was marketed.

County estimates of irrigated crops.--Information was assembled and published for the first time in 1958 on acreage, yield, and production of corn and alfalfa hay on a county basis. As the trend in irrigated crops increases and other crops become significantly important, county estimates will be made for all irrigated crops.

Other projects.--Projects started during the past year included county pig estimates that will be published on a yearly basis starting from 1940; a series of reports on the average value per acre of all farmland and buildings by counties beginning with 1910 to date; and county estimates of farm population.

TENNESSEE

Improving marketing methods and expanding outlets for poultry and eggs (TENN-A-1)

Service work designed to improve egg grading and handling and to assist poultry processors in developing efficient plant layouts was carried on under this project. Egg grading and marketing schools were held for producers, packers, and retailers. Extension food information specialists, home economics teachers, and home demonstration agents cooperated in disseminating material on egg quality to consumers. As a result of these efforts, the quality of eggs handled in retail markets improved substantially in the last year. Egg producers who adopted the department's recommendations for producing quality eggs and sold them on the basis of official grades received price premiums of from 5 to 10 cents per dozen.

Department personnel surveyed poultry processing plants in the State to determine the need for improvements in facilities, equipment, and operating methods. These surveys were followed up by direct assistance to plant operators in making the needed improvements. In some cases the Transportation and Facilities Research Division of the U.S. Department of Agriculture cooperated in these efforts. As a result of adopting changes recommended in a proposed plant layout, one processor will save approximately \$50,000. It is estimated that poultry processors will save more than \$2 million annually through this service.

Improving livestock marketing methods (TENN-B-1)

Personnel of the department worked closely with feeder calf producers in developing plans for new marketing organizations, and continued to give assistance to established associations. Assistance was provided in summer field inspections of calves; in making plans for sales; grading calves according to breed, quality, sex, and weight; securing buyers; and furnishing other assistance as needed. In the 13 feeder calf sales where 11,434 calves were sold, it was estimated that farmers received a premium of 3 cents per pound, about \$135,000 more for their calves than they would have received on regular markets.

In connection with the 12 lamb pools through which nearly 20,000 lambs were sold, department specialists gave demonstrations of official grades. It was estimated that the graded lambs in these pools brought an additional \$25,000 to the farmers. All wool pools in the State were encouraged to use official grades in selling wool. Sales through the 21 wool pools amounted to 815,500 pounds and producers realized additional returns estimated at \$45,000.

Assistance was given local committees in working out rules and regulations for feeder pig sales, securing places for the sales, promoting the sales, and in demonstrating grading methods on sale days. Fifteen sales were held with 11,000 pigs sold.

In cooperation with Extension personnel, auction market operators, meat packers, and livestock buyers additional services performed under this project included staging livestock shows, holding county agent refresher judging classes, and judging livestock at many county fairs across the State.

TEXAS

Improving quality of Texas agricultural products (TEX-A-1)

Eggs.--The Texas Department of Agriculture, in cooperation with the Extension Service, continued its work with producers, dealers, and consumers on egg merchandising, quality improvement and maintenance, and grading. During the past year activities under this project included conducting special grading and handling schools and demonstrations, distribution of feature stories and informational material on quality eggs, and participation in radio programs. The number of people who have received training in grading and quality improvement has increased by 35 percent. As a result of this program more eggs are sold on grade, and the consumption of Texas eggs has increased about 15 percent. This work has resulted in a significant reduction in violations of the Texas Egg Law.

Poultry and dairy products.--In an effort to encourage consumers to become more conscious of quality and standards, the department in cooperation with the various dairy and poultry products organizations prepared and released stories to all Texas newspapers on promoting and improving quality of poultry and dairy products.

Expanding outlets for Texas agricultural products (TEX-B-1)

Sweetpotatoes.--The Texas department continued its program designed to improve quality, grading, and handling of sweetpotatoes. Over 2,500 growers, shippers, buyers, and other interested persons were furnished information on grading, improving marketing practices, available supplies and quality maintenance through demonstrations and personal contacts. On the consumer level, promotion included one-day consumer preference tests and radio and television appearances to encourage greater use of sweetpotatoes. Feature stories explaining grades to consumers were distributed to over 350 weekly papers and 79 daily papers in the State.

These activities assisted the industry in expanding outlets for the increased production of sweetpotatoes, amounting to about 300,000 cwt. over the previous year. The program had the further benefit of increasing the proportion of the crop sold on a graded basis.

Watermelons.--The important activity under this project was the preparation and distribution of informational bulletins for the East Texas and Southern

Texas watermelon producing areas. Over 5,000 copies of these bulletins containing information on expected production, names of local shippers and weigh stations, varieties, plantings estimated, dates of harvest and map of the area, were distributed in each area to truckers, buyers, and shippers. An estimated 5 to 10 percent more melons were sold as a result of this project.

Seed.--Under this phase of the project, which was aimed at encouraging widespread use of registered and certified seed, demonstrations were conducted to show differences in poor and high quality seed of the following crops--cotton, rice, hybrid corn, and sorghums. Twenty-five meetings were held to discuss the certified seed program and the requirements for becoming a certified seed grower. Feature articles on the program were released to farm journals and newspapers. Two publications were printed and distributed to help promote the use of good seed. One publication contains information relating to seed certification standards and regulations, and the other lists all current registered seed breeders and certified seed growers.

Grain storage facilities.--In cooperation with area grain warehousemen and growers, the department continued the service of providing information on available grain storage and obtaining temporary and seasonal storage for Texas grain. Assistance was also given in routing trucks and rail cars to local shipping points of greatest need. A master list of grain warehouses licensed by the department was compiled and 1,000 copies were distributed. During the 1959 season, the department assisted in the placement of over 4,000,000 bushels of grain in storage and made available to the industry information on the location of about 400,000,000 bushels of storage capacity in the State.

VERMONT

Improving milk quality (VT-A-1)

The department continued its program to increase the sale of Vermont fluid milk by improving the flavor. Assistance was given producers and distributors in eliminating the causes of off-flavor on the farms and in marketing channels. In addition, milk handlers and distributors were furnished information on milk flavor problems through published news articles and in meetings. Major accomplishments under this project included a decrease in feed flavors in milk, installation of good ventilation systems, reduction in the amount of rancid milk, decrease in oxidized milk through elimination of contact with metals damaging to milk flavor, replacement of equipment injurious to milk flavor, and increased use of amber glass bottles which reduce flavor damage by light.

Periodic testing has shown steady improvement in flavor of all shipments to each major milk handler in Boston. Records of one large handler with several hundred producers in Vermont showed only 2 percent of producer samples unsatisfactory in taste in 1959, compared to about 20 percent in 1956.

As a result of the milk quality improvement program, retail sales of fluid milk in Vermont have increased substantially in four years without an increase in population.

VIRGINIA

Improving quality and marketing methods (VA-A-1)

Eggs.--Work under this project was expanded to meet the needs of an expanding commercial egg industry whose commercial flocks represent 25 percent of the total laying hens on farms. Work was concentrated on market development, quality control, sales promotion, and cost reduction in the physical handling of eggs.

A study completed in 1958 found that Virginia producers were supplying 37.3 percent of the eggs for nearby wholesale markets, and the volume was increasing each month. It was also found that the larger marketing firms had pickup routes, farm service programs, paid for eggs on a grade and yield basis, and used the New York market quotation as a basis for establishing local marketing prices.

Marketing agents worked closely with marketing firms and egg producers to establish more effective quality control programs, plan new plant facilities, and expand the markets through sales promotion to retail buyers. Assistance was given marketing firms in developing equitable marketing agreements with producers, sales agreements with retailers, and coordinating the movement of surplus supplies between marketing firms.

Five new egg marketing firms were opened with Federal-State grading services during the year. Five additional firms shifted their operations by adding up-to-date grading equipment to their plant facilities and employing the Federal-State grading service. Approximately 30 million dozen eggs were graded under the supervision of Federal-State graders in Virginia during the past fiscal year. This volume represented a 33 percent increase over the previous year. Of the 23 marketing firms under the Federal-State program, approximately 65 percent were purchasing eggs direct from producers.

A special service to improve the physical handling of eggs and reduce handling costs in the marketing process was carried on under the Project VA-C-3. Marketing agents assisted in the sales promotion by contacting large buyers and by working with the State Egg Council in planning and distributing special promotion material during the spring egg promotion campaign.

Improving grading and marketing methods (VA-B-1)

Livestock.--A major objective of the Virginia livestock grading program is to stimulate the marketing of meat-type hogs and quality-bred cattle. During the year 1957-58, the department's swine marketing program followed two basic plans. They were: (1) The development of State grading programs for live hogs to pay producers on a merit basis, and (2) an approach to the meat-type hog problem from the producers' side. This past year, the Virginia Agricultural Extension Service assigned a swine marketing specialist to work with hog producers in the major producing area in the State. This has enabled the department to continue to promote the use of a State grading program for live hogs, and to promote the sale of feeder pigs on a grade and size basis through special sales.

Four major packing plants and two buying stations in the State use the live grading service of the department for hogs and are buying hogs from local sources on a grade-price basis. Of the 130,050 hogs graded on a live basis last year, approximately 37.26 percent graded U.S. No. 1; 30.7 percent U.S. No. 2; 8.6 percent U.S. No. 3; and 3.58 percent graded medium. The total volume of hogs graded declined 40 percent because of fewer hogs on Virginia farms, and two packing plants discontinued the grading service because of local competitive conditions.

Grade correlation of slaughter hogs was continued to improve the accuracy of live grading. A marketing agent assigned to this project helped to train graders of live hogs. Over 3,000 hogs were checked with an 84.7 percent overall accuracy of U.S. grade interpretation.

In 10 special sales 7,123 feeder pigs were sold, grossing farmers \$116,237. All pigs were graded by State graders at no expense to this project and were sold in uniform quality and weight groupings. A marketing agent assisted the livestock grading section in developing State grade specifications for commercial feeder pigs. These grades are: No. 1 feeder, No. 2 feeder, No. 3 feeder, medium feeders, and culls. The feeder pig grades were field tested under farm conditions on 763 pigs with a 79 percent accuracy on all grades. These tests include grading groups of feeder pigs on farms identifying each by grade and checking the carcass grade of each when they are sold as market hogs. These grade standards for feeder pigs have been adopted by all sales organizations which are sponsored by a producer organization with specific rules and regulations for sale consignments.

Buyers have responded to the sales because mortality rate is lower from pigs purchased through the special sales, purchases are made in uniform large lots, the grade stands up well under feeding conditions, and there are few complaints on feeding results. Producers have benefited because the sales have expanded the market outlets for feeder pigs in each sale area. Prices for feeder pigs averaged \$4.25 per head over regular farm prices or auction sales. This has given consignors \$30,000 more for their pigs as a direct result of the selling method. Price incentive for quality is evidenced by the price differential between grades. No. 1 feeders averaged \$1.69 per head more than No. 2 feeders, \$4.87 more than No. 3, and \$6.10 more than medium feeders.

Other phases of the livestock marketing program in Virginia included securing more information on the total number of cattle on grain feed during the fall and winter, marketing finished slaughter cattle through special sales, and expanding the market outlets of native ewes through special sales.

Surveys of cattle on feed revealed a 29 percent decrease in the total number of cattle on feed in 70 counties. This report has revealed a significant increase in the number of cattle fed in the grain producing area of the State. Finished cattle sold in 10 special sales held at Fredericksburg and Richmond, Virginia brought \$259,000. There were 240 more cattle sold through these sales than a year earlier. On the average, farmers received \$13.68 to \$20.00 more per head than cattle of similar grade selling through local auction markets.

Two yearling ewe sales were held in southwest Virginia in cooperation with county agents in the area. These sales have greatly improved the demand for native ewes and have been a factor in improving the quality of replacement ewes in the State.

Marketing assistance was provided wool producers during the past year. A marketing agent, working with USDA and local farm organizations, studied competitive freight rates affecting Virginia wool in southern markets. As a result of this study rates into southern wool manufacturing markets were adjusted downward for Virginia wool.

A survey of independent wool pools in Virginia revealed that farmers favored this method of selling. In 1958, 958,000 pounds of ungraded wool were sold on a bid basis to buyers from 25 independent wool pools representing 32 counties. This represented approximately 70 percent of the total volume offered for sale in the State. The cost of handling and selling at the local pool was between $\frac{1}{2}$ to 1 cent per pound compared to a 3-cent per pound selling cost for the statewide organization. Local pools were furnished a buyers' list upon request; and also information on price, volume sold, selling dates, and grades offered. The results of this marketing effort revealed that the independent pools narrowed the spread in their marketing prices. In 1957, independent wool pools had a price spread of 11.5 cents. During 1958, the price spread was 8.6 cents; and during the 1959 wool clip season, the price spread narrowed to 2.5 cents.

Improving marketing practices and expanding outlets (fruits and vegetables)
(VA-B-2)

Sweetpotatoes.---With the assistance of a marketing agent, growers and packers of sweetpotatoes on the Eastern Shore developed a sweetpotato marketing program through a local association. This market service program includes monthly information on potatoes in storage, conducting a yearly marketing clinic, the use of a labeling program with grade specifications, establishment of an industry research advisory committee, and planning a promotion program for Virginia Nemagold sweetpotatoes.

Working with committees of packers and growers, a marketing agent assisted the association in solving problems of grading specifications, labeling, and in planning several marketwide promotions in cities in Virginia and in other States. Personnel of the department assisted in these promotions, by contacting buyers and explaining the quality labeling program, by building effective sales displays for retailers, and by assisting in the distribution of point-of-sale material. Eight sweetpotato packers supported the quality improvement program and purchased labels for use on bushels of sweetpotatoes packed under a uniform grade standard established by a packer committee. All labeled potatoes were Federal-State inspected. Although the labeling phase of this program was in operation one week, 4,000 bushels of sweetpotatoes were packed, but because of excessive potato skinning it became necessary to curtail the labeling program. In spite of this setback, a survey of shippers at the end of the season showed that 35,000 bushels of sweetpotatoes were sold to new buyers during the 1958 season. In addition, prices to growers were approximately 15 cents higher than in 1957, even with a 9 percent crop increase.

Apples.--During the 1957-58 marketing season, the Virginia Department of Agriculture cooperated with the Virginia Apple Commission in extending the Virginia apple promotion activities to 11 markets in 6 other States. In this work, contacts were made with brokers, service wholesalers, independent retailers, and chain store operators to explain the Virginia apple promotion and advertising program and to encourage the purchase of apples from Virginia packers. The results of these buyer contacts revealed: (1) Most buyers prefer fruit packed out of storage rather than fruit packed at harvest time and placed into storage; (2) larger buyers desire suppliers who can supply their market requirements for the season; and (3) the tray pack was a very popular container.

A department representative observed shipments of Virginia apples being received at various markets and communicated back to the shippers or packers complaints regarding grade, size, condition, and appearance. Condition reports were sent to 125 individual fruit packers and growers giving each a market evaluation of their packed fruit observed in each city. A follow-up visit was made to the packers with serious complaints to suggest improvements in the pack which would enhance trade acceptance.

Expanding market outlets and improving market practices (VA-C-1)

Grain.--A three-year evaluation was completed to determine oil content of soybeans. The facts show that Virginia soybeans compare favorably with those of other areas. This information was presented to the trade to counteract rumors of unfavorable quality that would have affected growers' prices adversely.

A grain market study composing 12 eastern Virginia counties was conducted during the 1959 harvest season. The purpose of this study was to determine grain marketing patterns of Virginia grain, compare grading procedures, secure discount information, and to evaluate the future marketing opportunities for grain producers. This survey is coordinated with representatives of the State Agricultural College to evaluate recommendations for disposal of grain on farms.

Improving marketing practices (VA-C-2)

Assistance in improving marketing methods to the Hanover County Vegetable Growers' Association was expanded. Marketing agents assisted the association and its members in preparing sales promotion leaflets, in adopting proper grading and packing methods, in expanding sales to larger buyers, and in making efficient utilization of a new warehouse. In spite of difficult weather and market price conditions, the association has handled \$125,000 worth of produce for its growers since July 7, 1958. Results of this marketing program have provided two primary advantages for farmers producing vegetables in the Richmond area: (1) The association has expanded market outlets for local farmers into six States; (2) association members received about 25 cents per package more for produce sold through the association than on the local Richmond market.

Cannery sweetpotatoes.--Marketing agents continued to provide assistance to expand the sales of cannery sweetpotatoes grown on the Eastern Shore. Special emphasis was given this year to better grading methods, accurate weighing, and sales promotion to individual canners. The Bargaining Association, organized

in 1956, doubled its membership in 1959 and the volume of cannery sweetpotatoes sold through the association increased from 54,000 bushels to 158,000 bushels during the same period. It is estimated that about 1,000,000 bushels of sweetpotatoes are produced for the cannery market on the Eastern Shore. Members believe that bargaining associations such as this one and the ones in New Jersey have helped to increase grower income at least 25 cents per bushel for at least one-half of the total amount of sweetpotatoes offered to canners.

Cannery tomatoes.--A marketing agent was assigned to assist a group of tomato canners to improve marketing practices of their product during the 1959 canning season. Assistance was provided in designing a new label with uniform quality standards and in helping to use canning equipment more efficiently. The cannery operators were organized into a marketing cooperative. The members approved the use of a new label which was designed in attractive colors and was lithographed into the can. The cooperative members selected a top standard grade as the grade specification for the label after marketing agents made contacts with chainstores and cooperative wholesale buyers to determine demand. Seventy-five hundred cases of labeled tomatoes were canned this year. A sales promotion plan is now under consideration by the cooperative members.

Improving marketing facilities and handling methods (VA-C-3)

Activities under this project were expanded during the year to include assistance to egg marketing firms and dealers to detect areas of excessive cost and how such cost can be reduced in handling Virginia eggs from the farm to the retail distributor. Special work was undertaken on improving pickup route efficiency, on the adaptation of automatic equipment to egg handling, in establishing efficiency standards for plant labor, and in determining ways to reduce administrative cost.

These studies reveal that it costs, on the average, $7\frac{1}{2}$ cents per carton of one dozen to pick up eggs on the farm and handle them through an egg grading and packing plant. Labor and materials cost were the two most important cost items added to a carton of eggs after it reached the marketing firm. Combined, they represent 68 percent of the total cost of handling a carton of eggs from the farm to the retailer. Marketing agents working with individual marketing firms found that labor represented 24 percent of the total cost. The lack of well-trained, skilled labor to operate automatic equipment has resulted in plant delays, equipment failures, and has slowed down plant operations resulting in higher handling costs. A preliminary study was also completed by marketing agents to compare the cost of grading eggs on the present automatic machines available and by hand candling using reasonably well-trained personnel. It was found that when the problems of labor and volume were solved that eggs could be candled and packed $1\frac{1}{2}$ cent per dozen cheaper by automatic machines than by conventional hand candling system. These studies also revealed that the average egg candler will candle a case of good quality eggs in 11 minutes, whereas, a 30-dozen case of eggs, averaging 60 percent Grade A, takes 15.6 minutes to candle. The poor quality eggs cost 8 cents a case in labor more than the good quality eggs.

Results of these surveys have proven conclusively to the management of egg marketing firms that marketing margins can be reduced. Six marketing firms

were shown how to reduce marketing costs by \$1,000 per month or about 1/2 cent per dozen on all eggs handled through their plants.

This marketing cost reduction was accomplished by reducing overhead administrative cost, rearranging plant layouts, obtaining more efficient candling volume, and by implementing plant quality control programs. Five of these firms studied by marketing agents this year, have already instituted some of the recommendations proposed to reduce marketing costs. Three firms have reported a net savings of \$500 per month since the recommendations were adopted.

In cooperation with other State agencies, the department assisted two apple packing sheds during the 1958 packing season: (1) To reduce handling costs, (2) to determine ways to protect apple quality in the handling process, (3) to determine where and how apples were bruised from the orchard to the plant, and (4) to calculate actual cost of packing apples in different containers.

Continued assistance was given the Richmond Produce Market Authority in developing plans and contract specifications for a new wholesale food center for Richmond. Plans include facilities for 24 wholesale dealer units and 20 covered farmer-trucker sheds. Additional facilities include a service station, administrative offices, and restaurant, with a total cost of the proposed food center estimated to be about \$700,000.

Providing special marketing information (VA-D-1)

Marketing agents, Market News personnel, the Federal-State statistician, and the department information specialist collaborated in the preparation of the Virginia department's weekly report on supply and demand prospects for agricultural products, which was distributed to newspapers and radio stations over the State. Special marketing information regarding location, quality, quantity, and peak marketing periods needed in connection with commodity promotion campaigns and marketing plans carried out under other projects was developed under this project.

Dairy.--The production of Grade A milk in Virginia has increased 250 percent since 1944. As a result, Virginia has grown from a deficit milk-producing State to one with a 30-percent surplus. The growth of Grade A milk production is continuing, and additional marketing outlets must be developed, both within and outside the State.

In cooperation with representatives of the State Agricultural College, Federal-State statistician, and the U.S. Department of Agriculture, the department planned and conducted a statewide study of the Grade A milk industry. The following phases of this study have been completed: (1) A dairy farm survey was completed and the results published; (2) a milk producer cooperative study was completed and the results published; (3) State Milk Commission records were analyzed for marketing data and the results published; (4) the field work has been completed on securing production and marketing information from Grade A milk and ice cream plants in the State.

Results of these studies have helped to define the marketing pattern of Virginia milk and have assisted industry leaders to see and appraise some of

the major marketing problems. Examples of a few are: (1) Low milk consumption--analysis of Milk Commission records and other data shows that Virginia is among the lowest States in the Nation in per capita fluid milk consumption. (2) Multiple farm inspection--regular delivery of raw milk from farms to milk plants extends more than 400 miles in the State. There are more than 25 different ordinances on quality control. In some instances, a farm is inspected by as many as five separate agencies or organizations. (3) Excessive number of marketing cooperatives--more than 20 dairy marketing cooperatives operate in the State with 80 percent of the Grade A dairymen as members. Duplication of marketing effort, cost, and equipment suggests an opportunity for some cooperatives to merge or develop closer cooperative business relations. (4) Milk price controls--as of July 1, 1959, 47 percent of Virginia's Grade A dairymen had prices controlled under base regulations by the Virginia Milk Commission and about the same number were controlled under Federal milk market orders. Thirty-one markets using over 80 percent of the bottled milk sold in Virginia had resale price control under the State Milk Commission. Growth of milk handlers and distributors has resulted, in some instances, in a milk plant operating in as many as five regulated markets. This has resulted in multiplicity of records and in undesirable trade barriers to efficient marketing.

WASHINGTON

Improving marketing methods and expanding outlets (WASH-B-1)

Fruits and vegetables.--Marketing services provided by the Washington department to assist the berry industry were directed primarily along these lines: (1) Establishing new outlets in the Mountain and Midwest States for fresh and frozen berries, (2) providing marketing information and analyses needed in negotiating prices of processing berries, and (3) evaluating the market potential for and helping to introduce to the trade two new berry products.

Efforts of the department to secure reductions in the air freight rate on berries to Midwest markets were successful and greatly enhanced the opportunities for expanding markets in this area. Another activity designed to expand outlets for berries involved the preparation of a sales promotion and informational brochure on red raspberries. This brochure was printed at industry expense and 20,000 copies were distributed to produce buyers, brokers, and all major retail stores in the State. These initial efforts at expanding markets have stimulated the industry in Washington and Oregon to consider a joint promotional program.

Consumer information on four species of berries was prepared for release over the market-casting network of a Seattle radio station. Spot announcements amounting to over 10 hours of air time were broadcast during the berry marketing season.

The Washington department, in connection with processor price negotiations, helped grower organizations obtain a three-year contract for red raspberries for processing with each of the four major processors in the State. This is the first time that any grower organization in the State has been able to obtain a contract extending beyond one year. The price received by growers for raspberries delivered to processors in Washington increased from an average of 9 cents per

pound in 1958, to 14 cents per pound in 1959. The amount of processed raspberries marketed increased from 14,600,000 pounds in 1958, to 15,830,000 pounds in 1959. The 5-cent per pound increase resulted in a greater cash return to growers amounting to nearly \$800,000.

Marketing specialists again surveyed retail outlets in the State during the berry marketing season to observe marketing conditions and assist retailers in improving merchandising practices. Information obtained in these surveys concerning needed changes in grading, packaging, and handling was relayed back to growers and shippers.

A final phase of project work to expand markets for fresh and frozen hot-house and field rhubarb produced in Washington was carried out with effective results. A sales promotion brochure was prepared by marketing specialists and printed at the expense of the Washington Rhubarb Growers Association. This brochure which was distributed to institutions having feeding programs and to the retail trade resulted in many new orders. The industry also expanded sales volume by following recommendations made earlier under this project to intensify market promotion in California and Texas, and to develop the institutional market for frozen rhubarb. Under the stimulus of work done under this project, the sales value of rhubarb has increased from about \$830,000 in 1957, to approximately \$1,100,000 last year.

Beef.--At the request of the Washington Cattlemen's Association, the department made a survey of competitive conditions in the Canadian beef cattle industry and published a report entitled "Washington Beef--Beef Cattle Production and Marketing in Canada as a Competitive Factor." The material in this report was presented to the Association and it is being used by feeders and packers in adjusting their programs to the competitive situation in Canada. Lack of this information in the past has resulted in excessive supplies of slaughter cattle at certain times, with resulting losses to Washington cattlemen.

Marketing specialists prepared information for use in connection with hearings on proposed rate reductions on meat and meat products on shipments from the Midwest.

The marketing information program was expanded to include greater coverage of livestock transactions at country auction markets.

Hay.--At the request of the Benton County Hay Marketing Association, hay producers in other areas, and the Washington State Dairymen's Federation, the department initiated a study of the hay marketing situation during the preceding year. This survey will attempt to answer questions regarding changing trends in hay marketing, producer and consumer evaluations of grades, interest in chemical analyses and guarantees of quality, and the further assistance which the department should provide in improving hay marketing.

General.--A new FM radio and market-casting station was established to broadcast marketing information into a supermarket network of 150 stores in the Puget Sound metropolitan area. A project was developed to provide current agricultural marketing information in ready-to-use script form for free broadcasting as public service announcements. Commodity groups within the State cooperated.

Scripts aimed at consumers were prepared on a wide variety of berries, vegetable crops, and other products. These included honey, eggs, frozen berries, strawberries, raspberries, rhubarb, squash, and potatoes. Conferences were held with the station staff on the problems of making agricultural public service announcements effective and timely. Observations were made in 20 supermarkets where the scripts were broadcast to evaluate effectiveness. The station was assisted in developing sources of marketing information from Federal, State, and private agencies.

The work has been acknowledged by the Station as being extremely helpful in broadening its service to include agriculture. Observations in stores indicated that supermarket management found the information useful to a significant degree. Some of the script material prepared was effective in creating more consumer buying of farm products in heavy supply at points of sale. Supermarket management was better informed about Washington agriculture through the store-casting media.

During the past year special efforts have been made to improve the quality and scope of marketing information available to Washington agriculture. This information was confined to four general categories:

- (1) Local, regional and national price and market information not otherwise reported.
- (2) Developments in agriculture, whether State, national or foreign, that could effect local producers.
- (3) Local, State and Federal governmental activities in agriculture.
- (4) Activities of State commodity commissions or other organized farmer groups.

Increased emphasis in the area of pricing has been given to cattle and hogs at local auction yards, to potatoes and field vegetable crops at the farm level, and to alfalfa hay both at the farm level and user level. Dissemination of this information was done in three ways:

- (1) Through radio broadcasts.
- (2) Through special reports to the United Press International.
- (3) Through the weekly Farm Marketing Information bulletin.

Dissemination of marketing information under this project has stimulated other activities designed to improve marketing structures and methods. For example, information on asparagus supplies and prices prompted asparagus growers to establish bargaining arrangements with processors and to develop the types of data needed in price negotiations.

Providing special marketing information and basic data (WASH-D-1)

The series of county data bulletins was expanded during the year to include most of the 39 counties in the State. Bulletins on 32 counties were published

and distributed to users in secondary and college education, community and county planning for economic improvement, chambers of commerce, county agents' offices, banks making agricultural loans, and numerous private firms engaged in agricultural marketing.

Use of the bulletins has brought numerous acknowledgments of their value in advancing the State's agriculture. The bulletins have fulfilled needs for agricultural and production surveys or studies that would have been impossible for any other agricultural or allied groups to undertake.

WEST VIRGINIA

Improving marketing of farm products (WVA-B-1)

Timber.--The development of a marketing service program under this project to assist farm woodlot owners in obtaining greater returns from their timber products has been underway for only a short time. The program is still in a formative stage, but progress has been made in identifying the problems inherent in present marketing methods and in securing agreement among the various agencies interested in timber marketing regarding the specific activities and kind of service needed to improve the timber marketing system.

The program is to be directed primarily at the 3 million acres of farm woodlots in West Virginia, which constitute about 41 percent of the total land in farms. It is felt that adequate returns are not now being received by farm woodlot operators for their timber products. Foresters estimate that now in many cases sales returns are below harvesting costs.

Fruit.--The buyer informational program was continued to assist itinerant truckers and other buyers in locating supplies of West Virginia peaches and apples. Informational material on the locations of orchardists having fruit for sale, and the varieties, quantities, and qualities available, was provided over 1,000 truckers and other buyers serving southern markets.

The West Virginia department continued assistance to growers marketing through the Inwood Farmers Market in improving the pack and securing outlets. Growers assisted realized at least 25 cents per bushel more by marketing through this facility than they would have if they had sold the fruit to processors or in bulk. More than 90 growers used the grading and packing facilities of the market, and plans are being developed to increase the size of the packing shed to accommodate more growers.

Vegetables and small fruits.--In cooperation with extension workers, county agent, vocational agricultural teachers, and the West Virginia University, assistance was given more than 3,000 farmers in a 25-county area in commercial marketing of vegetables and small fruit. At the request of a Fruit Growers Association, assistance given strawberry growers in proper harvesting, grading, picking, and preparing for fresh market resulted in the association having a ready market for its members' production.

Marketing specialists instructed growers in the proper harvesting methods, grading, packing, and packaging cauliflower and cabbage for market. Assistance was provided in preparing about 5,000 crates of cabbage and 4,000 crates of cauliflower which moved through local chainstores.

Farmers in other areas were assisted in marketing green beans, sweet corn, tomatoes, potatoes, and green peppers.

Eggs.--Instructions to egg producers on candling, grading, and sizing eggs at the time eggs were delivered to market proved more successful than discussions on the farm. This marketing assistance resulted in an increase of 46.6 percent in graded eggs at one market, and an increase of 77 percent at another. Producers received 5 to 7 cents more per dozen for their graded eggs than they received for eggs sold on the wholesale grade basis.

Over 2,000 copies of a pamphlet, "Know the Eggs You Buy" were distributed to consumers by the Parkersburg Farmers Market. In cooperation with a local dairy, the market initiated the sale of West Virginia Grade A eggs to be included with route sales of milk and other dairy products. Marketing specialists conducted a school for the route salesmen to acquaint them with various grades and sizes of eggs. Other dairies are being encouraged to sell Grade A eggs.

Several meetings have been held with egg producers, poultry associations, extension workers, and the College of Agriculture to coordinate efforts in the egg marketing program.

Tobacco.--Assistance was again given tobacco growers in improving methods of harvesting, storing, curing, stripping, grading, and displaying burley tobacco for market. Demonstrations of better marketing practices were held for 50 burley tobacco producers from a 9-county area. Competitive marketing between the two burley tobacco auction markets was at least partly responsible for the higher average price received per pound of tobacco.

Livestock.--During the past year assistance was given livestock auction markets in classifying cattle and sheep as to quality, sex, color, and weight for sale in uniform lots. Demonstrations were conducted for producers and buyers at 11 livestock markets and on farms on the proper preparation and handling of animals for market and the buying and selling of livestock on a graded basis. A total of 198,413 head of livestock were marketed through special sales held under this program.

As a result of the lamb marketing work 71 percent of all lambs marketed last year were classified as to grade, compared to 57 percent in 1950.

Assistance was provided in planning 5 breeding ewe and purebred ram sales, at which 2,460 ewes and 114 rams were marketed, and four purebred cattle sales. A Purebreeders Directory was published during the past year and distributed to the purebred and commercial breeders.

Other products.--The department continued its work in developing outlets for and assisting in the marketing of walnuts, mayapple root, and Christmas trees.

Farmers interested in marketing walnuts took advantage of the 8 commercial hullers brought into the State, and based on the nearly 3/4 million pounds of walnuts marketed realized about \$20,000 for their green walnuts.

Assistance was given Christmas tree growers and buyers in developing an orderly marketing program. Work is also being done in developing markets for Bittersweet, Chinese chestnuts, American holly, filberts, and other native products. Investigations are now underway to determine the possibilities of marketing mushrooms which could be produced in abandoned coal and limestone mines.

Seal of quality.--A statewide contest resulted in the selection of a design for a Seal of Quality that could be used to identify quality products produced in West Virginia. Rules and regulations were written and filed with the Secretary of State which give the Commissioner of Agriculture the authority to permit producers, processors, and packing plants to use the Seal on West Virginia products that meet high quality standards set up by the Commissioner. Apples and eggs were the first West Virginia commodities to be marketed under the Seal of Quality program.

Collecting and disseminating basic data (WVA-D-1)

County estimates.--The collection of detailed information on crops and livestock by counties for publication in the county estimates series was continued. The new county estimates of egg production were incorporated into a special Poultry Statistics bulletin which contains current and historical data for use of the poultry industry.

Poultry and dairy news.--The publication of current information on the dairy and poultry industry was continued. These monthly bulletins provide the latest data on production, prices, cost of feeds, and the general outlook, and are mailed to over 1,000 persons, including newspapers, trade publications, and radio stations.

Livestock.--Efforts are being made to expand and improve the experimental market news program which reports daily grade price quotations for cattle and hogs at 9 auction markets, and veal, calf, and lamb grade price quotations at all 23 auction markets. Prices received from the special cattle and sheep sales, together with weekly livestock reviews and slaughter reports are incorporated in the Livestock Report.

WISCONSIN

Improving quality (dairy products) (WIS-A-1)

During the past year, the cottage cheese improvement clinics were completed. This was a successful project, both from a quality improvement and plant participation standpoint. The uniformity of composition improved as the clinics continued, and information was passed on to the plants. The biological quality of most of the samples was good throughout the clinics. This project was carried on with the cooperation of the Dairy and Food Control Laboratory of the University of Wisconsin.

The survey of fluid milk flavors was continued at intervals during the past year. Most of the products checked were found to be in the "good" range. The presence of oxidized flavors in a marked percentage of samples certainly warrants further work on flavors and education of producing patrons and plant personnel on "off-flavor" prevention.

Three ice cream manufacturing plants that had high coliform counts on some of their products were visited in order to attempt to improve the bacteriological quality of the products involved. An investigation of processing and handling methods in an attempt to locate the potential and actual sources of contamination was made. Potential sources of contamination were found and pointed out to the management of the three plants and all took some steps to correct their problems. Many of the plant personnel contacted on these investigations had received inadequate training for their duties.

The surveying of nonfat dry milk producing plants was continued during the year. The survey evaluated the scope and effectiveness of a plant's quality control program, receiving room operation, and field service, and also included plant management and its direction of these important phases of the plant operation. Plant management used the information in comparing the effectiveness of its operation with others in the State.

Work has continued on improving the quality of milk for cheese manufacturing. Several plants have been visited and direct microscopic clump counts have been run on producer milk deliveries. The results have been promptly made available to the plant fieldmen and the area resident dairy inspector who made the necessary farm calls. It has been found that when a producer delivers his own milk to the dairy plant and has the opportunity to examine a slide of his milk supply and discuss it with the technician that his quality will often improve without a farm call.

Following a series of meetings throughout the State, interest developed in a test for inhibitory substances. This is the Triphenyltetrazolium Chloride (TTC) test for inhibitory substances developed by Neal and Calbert of the University of Wisconsin. The field evaluation of this test became a major project of this section. The test has been found to be quite workable in the field and appears to have a major place as a tool in the future improvement of dairy products. The sampling was done during a season of the year when the use of antibiotics is normally low. During this time samples from about 13 percent of the producers surveyed showed some inhibition, not necessarily antibiotics. About 4.5 percent of these showed marked inhibition. Calls were made at several of these farms and antibiotics were found on the premises. To improve the quality of the cheese and other fermented milk products, considerable work will be done with this test during the coming fall and winter.

The overall quality of butter produced in Wisconsin continues to improve each year. During 1958, only 6.3 percent was scored as undergrade. Most of this was found to have a proteolytic defect. A slightly smaller percentage than in 1957 fell into the $91\frac{1}{2}$ or more score range. However, more butter labeled in the $90-91\frac{1}{2}$ score range was obtained for sampling than in years past, which accounted for the slight downward shift in percentages. The higher percentage of Wisconsin Grade "A" butter correctly labeled is a notable improvement. This benefits the Wisconsin producer, plant operator, and consumer.

Improving the marketing of farm products (WIS-C-1)

Livestock.--Efforts were continued to encourage the sale of livestock on a graded basis through the use of exhibits, demonstrations, and carcass grading contests. Exhibits were developed and displayed at the four Wisconsin junior livestock expositions, the Wisconsin spring market hog show, the Wisconsin beef futurity show and sale, and at the State fair. Grading demonstrations were given at these same events. As an important phase of this demonstrational approach, all livestock sold at the junior livestock shows were graded and sold on the basis of grades.

In addition to the livestock shows, marketing specialists assisted in establishing a second cooperative feeder cattle auction at one location in Wisconsin's most productive beef cattle area. Sales through these outlets are on a graded basis. The demand for Wisconsin dairy cattle has grown to the point that the Wisconsin Legislature has requested the department to develop a dairy heifer classification program. The Wisconsin department played an important part in the development of the Wisconsin Livestock and Meat Council. A program of work outlined by the Council is expected to be of real benefit to the livestock industry.

Fruits and vegetables.--The Wisconsin department helped the red tart cherry industry draft legislation to establish a marketing program for the processed product and in setting up a marketing order which will facilitate needed marketing improvements and increased promotional activities. Assistance was given the apple industry in establishing a marketing information program during the harvesting and marketing season. Information provided growers and marketing agencies under this program included the rate of movement by varieties, qualities and quantities available, and selling prices. Comments regarding this service have been highly complimentary and the industry has requested that it be continued. Discussion of improved marketing techniques were presented by department specialists at a series of meetings for apple, strawberry, and potato growers.

Tobacco.--To improve the preparation of tobacco for market, the Wisconsin department staged a series of 12 grading schools. Supplementing these schools a publication describing proper grading and sorting methods was prepared and distributed to growers. That these efforts were constructive was confirmed by the exceptionally low percentage of broken bales and grinder grades in the tobacco crop marketed. The weekly and seasonal reports on marketing transactions and volume of sales was continued. The volume reported to the department by dealers came within one percent of the actual marketings for the season based on the figure derived under the Federal support program. An orderly market prevailed throughout the selling season and it is believed that the activities under this project made a major contribution to this outcome.

Dairy products.--The department assisted 28 dairy plants handling nearly 1.8 billion pounds of milk in analyzing operating costs. A series of meetings was held with plant managers and other plant personnel to explain and interpret the data and to make recommendations for improvements. An increasing number of plants are cooperating in the work as indicated by the fact that only 13 plants were involved in 1956. This work has stimulated the cooperating plants

to seek out ways of reducing costs. Compared with the preceding year, the average cost of processing a hundredweight of milk in the larger diversified plants was reduced by nearly 5 cents per hundredweight of milk received. The comparable figures for straight butter and powder plants and small butter plants were 8.9 cents and 4.9 cents, respectively. One particular bottling milk plant reduced its costs by 9.6 cents per hundredweight of milk handled but the average cost of the group increased slightly. These cost reductions were effected in the face of rising unit costs for labor, equipment, and materials.

Providing new basic data (WIS-D-1)

The demands and needs of Wisconsin agriculture and allied industries for more specific and timely marketing data are growing at a rapid rate. Data provided through regular reports are valuable in many decision-making situations, but more and more requests are being received for specially prepared data to serve the needs of certain groups and types of businesses. Service is being extended into the area of economic analysis of proposed marketing plans, using the special data developed. For example, in the field of milk pricing, the Wisconsin department has had numerous requests for spot data on the competitive patterns of milk prices in certain marketing areas. Analyses were made of formula pricing of fluid milk and the effects which inclusion of the prices paid index as a factor might have. At the request of the legislature and the Wisconsin ice cream industry the department made a special study of the effect which lowering of the minimum butterfat content of ice cream in interstate commerce would have on the Wisconsin dairy industry.

Formal activities and types of reports under the project last year are classified under the following headings:

1. Quarterly sow farrowings report.
2. Quarterly livestock report emphasizing prices, marketings, total supplies of red meats, and consumption rates for red meats and poultry.
3. Feeder pig markets and prices.
4. Beef cattle on feed (quarterly), marketings, prices, and supply.
5. Calf marketings.
6. Butter marketing.
7. Wisconsin dairying.
8. Wisconsin gift cheese.
9. Fluid milk marketing.
10. Vegetables.
11. Poultry and eggs.

12. Grower and processor cherry report.
13. Wisconsin agricultural prices.
14. Basic State supply and marketing data.
15. Wisconsin outlook data.
16. Basic marketing data by counties.

SOME RECENT MARKETING PUBLICATIONS BY STATES

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Survey of Wineries and Grape Processing Plants, New York State, 1958, New York Department of Agriculture and Markets, Albany, March 1959.

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Christmas Tree Report, 1958-59 Season, Pennsylvania Department of Agriculture, Harrisburg, July 1959.

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Brookings County Statistical Series, South Dakota Department of Agriculture. South Dakota Agriculture, 1958, South Dakota Department of Agriculture.

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Georgia Dairy Facts, State Department of Agriculture, Atlanta, December 1958.

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VIRGINIA

Looking Into the Grade A Dairy Industry in Virginia, Virginia Joint Agricultural Publication No. 2, Virginia Department of Agriculture and Immigration, Richmond, and V.P.I. Agricultural Extension Service, Blacksburg, June 1959.

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VEGETABLES

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